South Australian Perinatal Practice Guidelines

Pre-labour rupture of the membranes (PROM) ≥ 37 weeks

Government of South Australia

SA Health

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Endorsed by: SA Maternal & Neonatal Clinical Network
Contact: South Australian Perinatal Practice Guidelines workgroup at:
cywhs.perinatalprotocol@health.sa.gov.au

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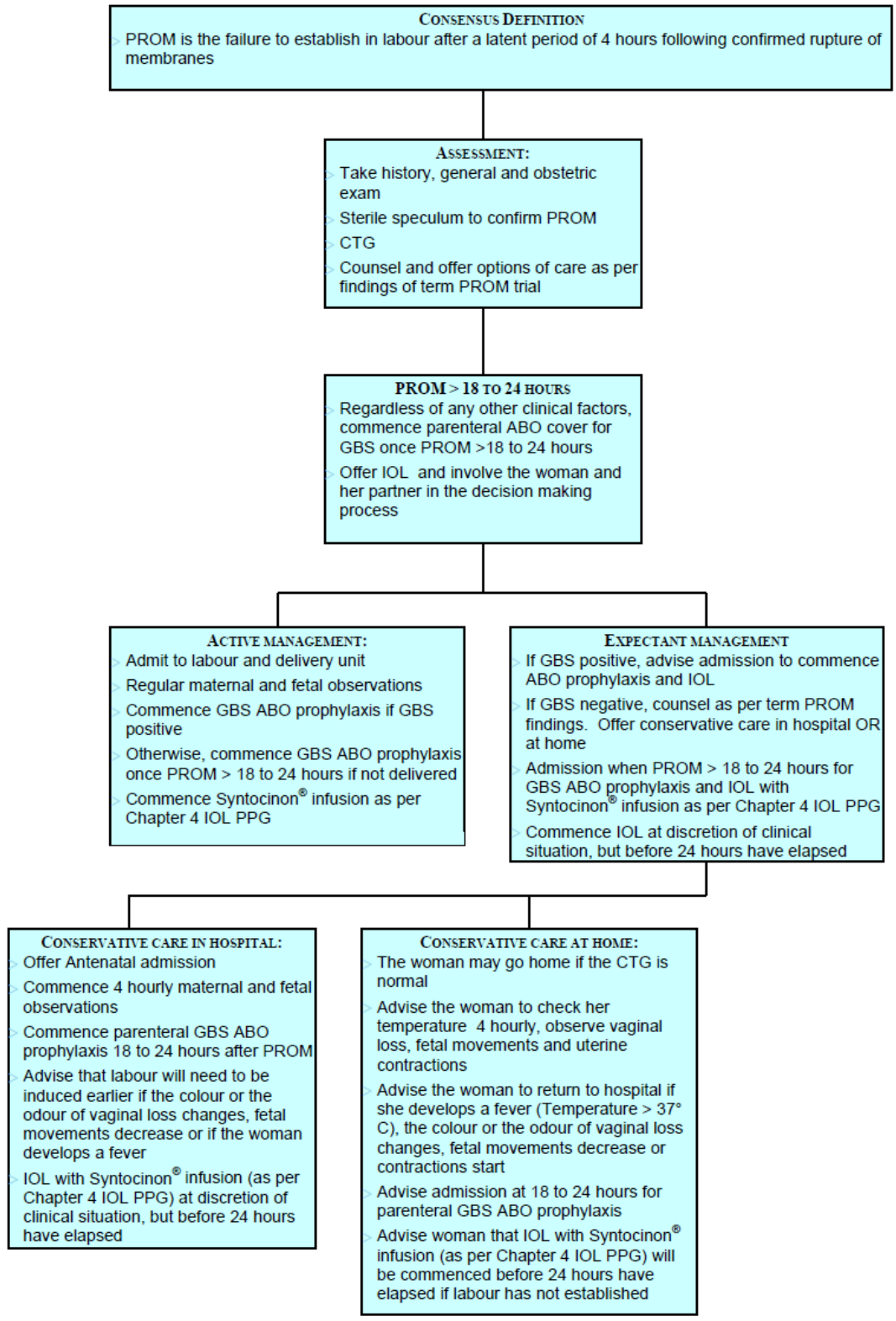
Management of PROM ≥ 37 weeks



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Introduction

- There is no universally accepted definition of PROM and hence **failure to establish in labour after a latent period of 4 hours following confirmed rupture of membranes** has been adopted
- PROM situations arise in 6 – 19 % of women at term. Even when the cervix is unfavourable, the majority of women labour spontaneously within 12 hours (Dare et al. 2006)
  - 50 % of these women will be in labour after 12 hours
  - 86 % will be established in labour within 24 hours
  - 94 % will be established in labour within 48 – 95 hours
  - 6 % of women will not establish in labour within 96 hours of PROM (NICE 2001; RCOG 2001)
- The risks of PROM at term relate to maternal and neonatal infection, prolapsed cord and fetal compromise resulting in operative delivery or low five minute Apgar score (RCOG 2001)
- The incidence of chorioamnionitis in women at term with prelabour rupture of the membranes is 6-10 % and occurs in up to 40 % of women with membrane rupture > 24 hours. Increasing numbers of digital vaginal examinations, longer duration of active labour and meconium staining of the amniotic fluid are the most important risk factors for the development of chorioamnionitis (Seaward et al. 1997)
- Active management with early induction of labour with Syntocinon® has been shown to reduce maternal and neonatal infection risks (RCOG 2001)
- The overall risk of maternal postpartum endometritis is 3-4 %

Literature review

- International Term PROM Trial (Hannah et al. 1996) (Level I Evidence)
- The findings of the trial should be discussed with the women on confirmation of PROM. The trial showed that both active management and expectant management were, in general, acceptable forms of care (Hannah 1996)
  - Similar rates of neonatal infection and caesarean section were found with active or expectant forms of management
  - Induction of labour with intravenous Syntocinon® resulted in a lower risk of maternal infection
  - Women viewed active management more positively than expectant management
- For women positive for Group B Streptococcal vaginal colonization with PROM at term, induction of labour with Syntocinon® may reduce the risk of neonatal infection when compared with vaginal Dinoprostone (PGE_2) gel or expectant management (Hannah et al. 1997)

Assessment

- Take history and perform general and obstetric examination

Sterile speculum examination

- Sterile speculum examination avoids the need for digital vaginal examination reducing risk of infection

Confirm diagnosis of PROM

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- Pooling of liquor
- Amnistix (nitrazine yellow) positive reaction results in a blue / purple colour on contact
- Ferning on microscopy

Also:

- Estimate cervical dilatation
- Exclude cord prolapse
- Take vaginal microbiological swabs (including GBS screening if results not available or not already taken)

Cardiotocography

- If PROM confirmed for cardiotocography (CTG to assess fetal condition)

Counselling

- The woman and her partner need to be counselled about the management options of active or conservative management for PROM at term, as detailed below

Management

- The following SA coroner's recommendations must be acknowledged:
  - Regardless of any other clinical factors, women at term who have rupture of the membranes for >18 to 24 hours should commence parenteral antibiotic cover
  - Offer induction in cases of term PROM and involve the woman and her partner in any decision making process

Expectant Management

- It is recommended that women who are carriers of Group B Streptococcus commence parenteral antibiotics and are induced as soon as practicable
- Women with term PROM who are Group B Streptococcus negative and choose expectant management of labour must be offered admission for parenteral antibiotic prophylactic cover before PROM exceeds 18 to 24 hours with appropriate follow up of mother and baby. The 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 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 (> 37.0˚ C), the colour or the odour of vaginal loss changes, the baby does not move as much as previously or contractions start
  - Women who have not established in labour after PROM should be advised to report to the hospital for admission before PROM exceeds 18 to 24 hours to commence parenteral prophylactic antibiotics and consideration of induction of labour

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Active Management

- Those women accepting the active form of management should be admitted to a Labour and Delivery Unit for further observation of maternal pulse, temperature and fetal heart rate
- It is recommended that women who are carriers of Group B Streptococcus commence parenteral antibiotics and are induced as soon as practicable

Syntocinon® Induction:

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

Prostaglandin Induction:

- Most studies, including the International Term PROM trial, have used prostaglandin E_2 but in Australia the manufacturers do not recommend its use with ruptured membranes
- Available evidence does not support the safety or efficacy of prostaglandin E_2 in the presence of Term PROM

Intrapartum antibiotics

PROM > 18 to 24 hours

- Parenteral antibiotic cover for GBS is required in all cases (irrespective of GBS status) of PROM > 18 to 24 hours (SA coroner's recommendations 2009)
  - Give benzylpenicillin 3 g IV loading dose, then 1.2 g IV every 4 hours until delivery
  - If allergic to penicillin, lincomycin 600 mg IV every 8 hours, or azithromycin 500 mg IV once daily are alternatives

Chorioamnionitis

- Diagnosis relies on clinical presentation and / or laboratory investigations
  - Maternal fever > 38° C with any 2 of the following:
  - Maternal tachycardia (> 100 bpm)
  - Fetal tachycardia (>160 bpm)
  - Uterine tenderness
  - Offensive smelling vaginal discharge
  - Increased white cell count (>15μL)
  - C-Reactive Protein > 40
- Histological examination of placenta and membranes with evidence of acute inflammation may confirm diagnosis post birth

Management

- If chorioamnionitis is confirmed, delivery of the fetus is indicated
- Commence ampicillin [or amoxycillin] 2 g IV initial dose then 1g IV every 4 hours, gentamicin 5 mg / kg IV daily, metronidazole 500 mg IV every 12 hours)
- For information about gentamicin levels, refer to the PPG 'Peripartum prophylactic antibiotics'

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Useful web sites

Courts Administration Authority South Australia
http://www.courts.sa.gov.au/index.html

South Australia Coroners findings for 2009
http://www.courts.sa.gov.au/courts/coroner/findings/findings_2009/content_2009.html
http://www.courts.sa.gov.au/courts/coroner/findings/findings_2009/linnell_sienna_jools.pdf

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Abbreviations

PROM	Pre-labour rupture of the membranes
CTG	Cardiotocograph
ABO	Antibiotics
GBS	Group B Streptococcus
PPG	Perinatal Practice Guideline
USS	Ultrasound
PE	Preeclampsia
IUGR	Intrauterine growth restriction
LMP	Last menstrual period
IOL	Induction of labour
et al.	And others
RCOG	Royal College of Obstetricians and Gynaecologists
NICE	National Institute for Clinical Excellance
C	Celsius
IV	Intravenous
bpm	Beats per minute
g	Gram/s
mg	Milligrams
µL	Microlitre
kg	kilogram
PGE_2	Prostaglandin E_2
MSL	Meconium stained liquor
mmol/L	Millimoles per litre

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Consumer advice for management of PROM > 18 to 24 hours

- Active management with early induction of labour with Syntocinon® has been shown to reduce maternal and neonatal infection risks (RCOG 2001)
- The incidence of chorioamnionitis in women at term with prelabour rupture of the membranes is 6-10 % and occurs in up to 40 % of women with membrane rupture > 24 hours. Increasing numbers of digital vaginal examinations, longer duration of active labour and meconium staining of the amniotic fluid are the most important risk factors for the development of chorioamnionitis (Seaward et al. 1997)
- The overall risk of maternal postpartum endometritis is 3-4 %
- Discuss the findings of the Term PROM trial:
  - The trial showed that both active management and expectant management were, in general, acceptable forms of care (Hannah 1996)
  - Induction of labour with intravenous Syntocinon® resulted in a lower risk of maternal infection (Hannah 1996)
  - Women viewed active management more positively than expectant management (Hannah 1996)
  - It is generally safer for women with PROM at term to remain in hospital if they do not want labour induction (Hannah et al. 2000)
  - The likelihood of receiving antibiotics before or after delivery is significantly higher for nulliparas if they are managed at home rather than in hospitals (Hannah et al. 2000)
  - Infants are at a twofold higher risk of becoming infected if management is at home (Hannah et al. 2000)
  - There is an increased risk of caesarean for women not colonized with group B streptococcus if they remain at home rather than in hospital (Hannah et al. 2000)

Version control and change history

PDS reference: OCE use only

Version	Date from	Date to	Amendment
1.0	18 Feb 04	28 Apr 08	Original version
2.0	28 Apr 08	24 Nov 09	Reviewed
3.0	24 Nov 09	25 Jan 10	Reviewed
4.0	25 Jan 10	18 May 10	Reviewed
5.0	18 May 10	current	

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