

# PRE-LABOUR RUPTURE OF MEMBRANES AT TERM

## DEFINITION

Pre-labour rupture of membranes (PROM) is rupture of the membranes prior to established labour in women at 37 completed weeks gestational age. The overall incidence rate is 8%<sup>1</sup>. Most women labour spontaneously, with approximately 70% by 24 hours, 90% by 48 hours and 2-5% will not labour by 72 hours<sup>2</sup>. Despite the rarity of major complications, PROM is associated with increased maternal and neonatal morbidity<sup>3</sup>.

## DIAGNOSIS

The diagnosis of spontaneous rupture of membranes (SROM) is based on maternal history. Women with an uncertain history of PROM should be offered a speculum examination to determine whether their membranes have ruptured. (It is recommended that women lie flat on their side for 30 minutes prior to the exam.) Digital vaginal examination is to be avoided, as it is strongly associated with increased rates of chorioamnionitis.<sup>4</sup>

## MANAGEMENT

An assessment of **all women** with PROM at term, to check maternal and fetal wellbeing, is recommended before deciding on management. (This does not necessarily need to be performed in hospital). It is recommended that all women with signs of infection or chorioamnionitis are offered immediate intervention.

An obstetric consultation is recommended for women with PROM 'before 24 hours' (Section 88 referral guidelines<sup>12</sup>)

Vaginal examinations (VEs) have been shown to be the strongest predictor of clinical chorioamnionitis for women with PROM, with increasing rates from 3-4 VEs (OR 2.06<sup>4</sup> to > 8 VEs OR 5.07) and are to be avoided. Regardless of the management option if examination is clinically indicated and will change management a sterile speculum examination is recommended. Digital examinations should be minimised.

- Women with ***signs of infection in association with PROM at term*** require careful assessment and the **immediate offer of intravenous (IV) Broad Spectrum Antibiotic Therapy in a secondary/tertiary facility (Appendix 1)**. If vaginal birth is appropriate it is recommended that they are offered an induction of labour as soon as possible.
- If ***meconium stained liquor is present***, an assessment, CTG and an obstetric review in a secondary/tertiary unit is required and IOL should be expedited. In a primary unit, the women

require a telephone consult with the obstetric team at secondary/tertiary unit and the recommendation of immediate transfer.

- Women with **Group B Streptococcus (GBS) risk factors** require the offer of both induction of labour and intrapartum prophylactic IV antibiotics. Refer to GBS guideline [GLM0032](#).
- **GBS risk factors**.<sup>7,8,9</sup>
  - a previous GBS-infected baby
  - GBS bacteriuria of any count during the current pregnancy
  - intrapartum fever  $\geq 38^{\circ}\text{C}$
  - membrane rupture  $\geq 24$  hours (unless recent negative 'GBS swab')
  - GBS colonisation in current pregnancy, unless negative GBS swab (at  $\geq 37$  weeks, combined vaginal-rectal, 'selective broth' laboratory process used)
- *Expectant management* is appropriate for women **who are well and have no risk factors**.<sup>3,6,10,11</sup>
- Women **suitable for expectant management** who subsequently *go into spontaneous labour and give birth before 24 hours* has elapsed since ROM **do not require** prophylactic IV antibiotics.
- Women who *do not go into spontaneous labour within 24 hours of ROM* have developed a risk factor for early onset GBS infection and **require the offer of an induction of labour and prophylactic IV antibiotics** as soon as practicable. Commence antibiotics at the beginning of the induction process.
- Prophylactic antibiotics for neonatal GBS infection are not indicated for women who have had a negative GBS swab within the previous five weeks (Campbell et al 2004 & CDC 2010), although they may choose to have them.
- Women suitable for expectant management who spontaneously labour but *do not give birth by 24 hours after ROM* require the **offer of prophylactic IV antibiotics at 24 hours post ROM**. Prophylactic antibiotics for GBS are not indicated for women who have had a negative GBS swab within the previous five weeks.<sup>7,8,9</sup>
- Induction of Labour – Dinoprostone can be used for cervical ripening. It is recommended to commence oxytocin at 12 hours however if the cervix remains unfavourable consider leaving the Dinoprostone insitu for a further 12 hours. Dinoprostone should **not** be continued for longer than 24 hours. Refer to [Induction of Labour](#) (GLM0035).

## INTRAPARTUM MANAGEMENT IN PRIMARY UNIT SETTING

Women in spontaneous labour, who *do not give birth before 24 hours after ROM*, with no clinical evidence of infection to mother or baby require consultation with CWH medical staff. This is with a view to consider the offer of prophylactic antibiotics in the primary unit.

## MATERNAL FEVER AND SUSPECTED CHORIOAMNIONITIS

If maternal fever is present, temperature, pulse and fetal heart rate auscultation should be monitored every 4 hours at least, or more frequently if indicated and IV antibiotic therapy commenced (see below).

Women with fever or signs of chorioamnionitis require immediate treatment, intervention and birth expedited.

Clinical signs of chorioamnionitis include maternal fever ( $\geq 38^{\circ}\text{C}$ ) AND 2 OR MORE of the following:

- abdominal tenderness
- offensive vaginal discharge
- offensive liquor
- maternal tachycardia
- fetal tachycardia

Where there are clinical signs of infection, appropriate specimens including bloods for: CBC, CRP and cultures as well as MSU and HVS are required before commencing antibiotic treatment.

## ANTIBIOTIC REGIME IN CASES OF SUSPECTED CHORIOAMNIONITIS

<b>(Regardless of Group B Strep status)</b>	Antibiotic therapy <b>Amoxicillin</b> IV 2 g 6 hourly (in 100 mL 0.9% Sodium Chloride over 30 min) AND <b>Gentamicin</b> 5 mg/kg OD IV infusion (if more than one dose required contact CWH pharmacist on Pager 5009 for advice on monitoring serum concentrations) AND <b>Metronidazole 500 mg IV 12 hourly in labour (to consult with pharmacist if required postnatally)</b>
If the woman is allergic to penicillin, replace penicillin component with:	<b>Low risk of anaphylaxis *</b> Cephazolin IV 2 g 8 hourly until birth <b>High risk of anaphylaxis *</b> Clindamycin IV 600mg q8h

*\*Low risk of anaphylaxis - women who do not have history of anaphylaxis, angioedema, respiratory distress or urticaria after penicillin or a cephalosporin*

## REFERENCES

1. Dare MR, Middleton P, Crowther CA et al. Planned early birth versus expectant management (waiting) for prelabour rupture of membranes at term (37 weeks or more). Cochrane Database of Systematic Reviews 2006, Issue 1, Art. No.: CD005302. DOI: 10.1002/14651858.CD005302.pub2.
2. Enkin M, Keirse M, Neilson J et al. A guide to effective care in pregnancy and childbirth (3<sup>rd</sup> ed) Oxford University Press, Oxford. 2000 p.205.
3. Association of Ontario Midwives. Clinical Practice Guideline No.13. Management of Prelabour Rupture of Membranes at Term. July 2010. (<http://www.ontariomidwives.ca/care/guidelines>)
4. Seaward PG, Hannah ME, Myhr TL et al. (1997) International multicentre term prelabour rupture of membranes study: evaluation of predictors of clinical chorioamnionitis and postpartum fever in patients with prelabour rupture of membranes at term. American Journal of Obstetrics & Gynaecology, 1997, Nov 177(5), 1024-1029.
5. De Meeus JB, Sima Ole B, Bascou V et al. Biological diagnosis of premature rupture of membranes: respective values of diamine oxidase activity compared to vaginal fluid pH (Amnicator). J Gynecol Obstet Biol Reprod (Paris). 1997; 26(7): 730-3.
6. Hannah et al. Induction of labour compared with expectant management for prelabour rupture of membranes at term. *New England Journal of Medicine* 1996, Apr 334(16), 1005-10.
7. Campbell N, Eddy A, Darlow B, Stone P. & Grimwood K. The prevention of early onset neonatal group B streptococcus infection: technical report from the New Zealand GBS Consensus Working Party. *NZMJ*, 2004, 117:1200 (<http://journal.nzma.org.nz/journal/117-1200/>)
8. Centers for Disease control and prevention. Prevention of perinatal group B streptococcal disease, revised guidelines from CDC, 2010. *MMWR* 2010,59 (No. RR-10), pp14.
9. RANZCOG. Screening and treatment for Group B Streptococcus in pregnancy. College Statement C-Obs 19. 2011. (<http://www.ranzcog.edu.au/the-ranzcog/policies-and-guidelines/college-statements/414--screening-and-treatment-for-group-b-streptococcus-in-pregnancy-c-obs-19.html>)
10. RANZCOG. Term Prelabour Rupture of Membranes (Term PROM). College Statement C-Obs 36. 2010. (<http://www.ranzcog.edu.au/womens-health/statements-a-guidelines/college-statements-and-guidelines.html?showall=&start=1>)
11. Mozurkewich E, Chilimigras J, Koepke E et al. Indications for induction of labour: a best evidence review. *BJOG* 2009; 116; 626-636.
12. Ministry of Health. Guidelines for Consultation with Obstetric and Related Medical Services (Referral Guidelines). 2012. Wellington: Ministry of Health. <http://www.health.govt.nz/publication/guidelines-consultation-obstetric-and-related-medical-services-referral-guidelines>)

Date Issued: May 2021

Review Date: May 2024

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Pre-Labour Rupture of Membranes at Term

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## APPENDIX 1

