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PRETERM PRELABOUR RUPTURE OF THE MEMBRANES (PPROM)

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and
Directorate of Strategy and Clinical Care,
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Key Recommendations

1. The diagnosis of spontaneous rupture of the membranes is best achieved by maternal history followed by a sterile speculum examination. Ultrasound examination is useful in some cases to help confirm the diagnosis.
2. Digital vaginal examination should be avoided where preterm prelabour rupture of membranes (PPROM) is suspected.
3. Women should be observed for signs of clinical chorioamnionitis between every four to six hours.
4. A weekly high vaginal swab and at least a weekly maternal full blood count should be considered.
5. Fetal monitoring using cardiotocography (CTG) should be considered where regular fetal surveillance is required.
6. Oral erythromycin should be given for 10 days following the diagnosis of PPRM from 20 weeks' gestation if there is no clinical evidence of chorioamnionitis or maternal sepsis. Erythromycin is indicated as antibiotic prophylaxis only.
7. Women with clinical signs of chorioamnionitis should be commenced on broad spectrum intravenous antibiotics and delivery should be undertaken.
8. Antenatal corticosteroids should be administered in women with PPRM between 24 and 34 weeks' gestation.
9. Prophylactic tocolysis in women with PPRM without uterine activity is not recommended.
10. Women with PPRM and uterine activity who require intrauterine transfer or antenatal corticosteroids may be considered for a short course of tocolysis. However, this decision needs to be considered in light of the possibility of pre-existing intrauterine infection, the only clinical feature of which might be uterine activity. If there is a significant suspicion of chorioamnionitis, then tocolysis is not recommended.
11. Delivery should be considered after 34 weeks gestation. Ideally, women who are managed with an expectant plan beyond 34 weeks should be delivered no later than 36 weeks and 6 days gestation.
12. Outpatient monitoring should be considered only after a period of 48-72 hours of inpatient observation.

13. Women being monitored at home for PPRM should take their temperature twice daily and should be advised of the symptoms associated with intrauterine infection.
14. There should be clearly described local arrangements for the frequency of outpatient visits and what tests should be carried at these visits.

1. Purpose and Scope

To make recommendations relating to the diagnosis, investigations and management of PPRM. The guideline evaluates various antenatal tests in helping to predict the fetus at risk from intrauterine infection. The role of prophylactic antibiotics, steroids and tocolytic agents and the optimum gestation to deliver women with pregnancies complicated by PPRM is examined and recommendations are provided based on published evidence.

2. Background

Preterm prelabour rupture of membranes (PPROM) complicates only 2% of pregnancies but is associated with 40% of preterm deliveries and can result in significant neonatal morbidity and mortality (Maxwell, 1993; Merenstein, 1996; Douvas, 1984). The three causes of neonatal death associated with PPRM are prematurity, sepsis and pulmonary hypoplasia. Women with intrauterine infection deliver earlier than non-infected women and infants born with sepsis have mortality four times higher than those without sepsis (Cotton, 1984). In addition there are maternal risks associated with chorioamnionitis.

There is evidence demonstrating an association between ascending infection from the lower genital tract and PPRM. One third of pregnancies with PPRM have positive amniotic fluid cultures (Carroll, 1996; Broekhuizen, 1985) and studies have shown that bacteria have the ability to cross intact membranes (Galask, 1984; Gyr, 1994).

3. Methodology

The Cochrane Library and Medline were searched looking for the following terms in the title or abstract "preterm prelabour rupture of membranes", "amnioinfusion", "sealing amniotic membranes," "intraamniotic infection", "Nitrazine", "amniocentesis", "antenatal corticosteroids" and "tocolytics". Relevant meta-analyses, systematic reviews and observational studies were reviewed.

The principal guideline developers were Dr Stephen Carroll, Consultant Obstetrician and Gynaecologist and Dr Susan Knowles, Consultant Microbiologist at the National Maternity Hospital, Dublin. The guideline was peer-reviewed by Dr Fergal Malone (Rotunda), Dr Liz Dunn (Wexford), Professor Declan Devane (Midwifery), Dr Paul Hughes (Tralee), Professor Michael Turner (Coombe). Finally, the guideline was reviewed and endorsed by the Programme's Clinical Advisory Group and National Working Party.

4. Clinical Guidelines

4.1 How is the diagnosis of PPROM best achieved?

The diagnosis of spontaneous rupture of the membranes is best achieved by maternal history followed by a sterile speculum examination.

Ultrasound examination is useful in some cases to help confirm the diagnosis.

Digital examination should be avoided where PPROM is suspected.

The diagnosis is adequately made by a history suggestive of spontaneous rupture of membranes (SRM) followed by a sterile speculum examination demonstrating pooling of fluid in the posterior vaginal fornix; a Nitrazine test is not necessary. Ultrasound examination demonstrating oligohydramnios is also useful in helping to confirm the diagnosis of spontaneous rupture of the membranes (Ismail et al, 1985; Carlan, 1993; Carroll, 1995b; Coombs, 2004). However, a normal amniotic fluid index on ultrasound does not exclude the diagnosis of PPROM. AmniSure, which is a rapid immunoassay has been shown to accurate in the diagnosis of ruptured membranes with a sensitivity and specificity of 98.9% and 100% respectively (Cousins et al, 2005). This test may be considered in cases where the diagnosis is in doubt.

Digital vaginal examination is best avoided unless there is a strong suspicion that the woman may be in labour. This is because micro-organisms may be transported from the vagina into the cervix leading to intrauterine infection, prostaglandin release and preterm labour. Indeed, a retrospective study reported that the latency interval between spontaneous rupture of the membranes and delivery in those who had a digital vaginal examination was significantly shorter than if a sterile speculum examination only was performed (Lewis, 1992).

4.2 What antenatal tests should be performed?

Women should be observed for signs of clinical chorioamnionitis at least every four to six hours.

A weekly high vaginal swab and at least a weekly maternal full blood count should be considered.

Fetal monitoring using cardiotocography should be considered where regular fetal surveillance is required.

Women with clinical signs of chorioamnionitis should be commenced on broad spectrum antibiotics and delivery should be undertaken.

The criteria for the diagnosis of clinical chorioamnionitis include maternal pyrexia, tachycardia, leucocytosis, uterine tenderness, offensive vaginal discharge and fetal tachycardia. During observation the woman should be regularly examined for such signs of intrauterine infection and an abnormal parameter or a combination of them may indicate intrauterine infection. The frequency of maternal temperature, pulse and fetal heart rate auscultation should be between every four to six hours (Ismail, 1985; Romem and Artal, 1984; Carlan, 1993). Women with clinical signs of chorioamnionitis should be commenced on broad spectrum antibiotics and delivery should be undertaken. The recently developed Irish Maternity Early Warning System (I-MEWS) should be used to record the vital signs.

Maternal pyrexia, offensive vaginal discharge and fetal tachycardia indicate clinical chorioamnionitis. There is a variation in the literature regarding the accuracy of the laboratory tests of leucocytosis and raised C-reactive protein in the prediction of chorioamnionitis. The sensitivities and false positive rates for leucocytosis in the detection of clinical chorioamnionitis range from 29% to 47% and 5% to 18% respectively (Romem and Artal, 1984; Ismail, 1985). The specificity of C-reactive protein is 38% to 55% (Watts, 1993; Ismail, 1985; Kurki, 1990). However, the presence of leucocytosis may be useful clinically in cases where there is doubt about the diagnosis of chorioamnionitis.

Although weekly culture of swabs from the vagina is often performed as part of the clinical management of women with PPROM, the data evaluating this practice does not show conclusively that it is beneficial. It has been shown that positive genital tract cultures predict 53% of positive amniotic fluid cultures with a false-positive rate of 25% (Carroll, 1996b). High vaginal swabs may indicate group B streptococcus, which provides the opportunity for intrapartum antibiotic prophylaxis.

There have also been publications describing noninvasive tests of antenatal fetal assessment with the aim of differentiating fetuses that are not infected and will benefit from remaining in-utero from those who are at risk of infection or infected and need to be delivered. Studies show that biophysical profile score or Doppler studies of the placental or fetal circulation do not provide accurate distinction between infected and non-infected cases (Vintzileos, 1986; Goldstein, 1988; Roussis, 1991; Del Valle, 1992; Gauthier, 1992; Carroll, 1995a; 1995b). Fetal tachycardia predicts 20% to 40% of cases of intrauterine infection with a false-positive rate of about 3% (Ferguson, 1985; Ismail, 1985; Carroll, 1995b). Cardiotocography is useful because a fetal tachycardia if present, may represent a late sign of infection and is frequently used in the clinical definition of chorioamnionitis in studies.

Intrauterine infection, as defined by positive amniotic fluid cultures, is found in 36% of patients with PPROM and most are subclinical and do not show obvious signs of chorioamnionitis (Carroll, 1996). Positive amniotic fluid cultures increases the risks of preterm delivery, neonatal sepsis, respiratory distress syndrome, chronic lung disease, periventricular leukomalacia, intraventricular haemorrhage and cerebral palsy (Yoon, 1997a; 1997b; 2003). The role of amniocentesis in improving outcome

remains to be determined but is not recommended as a routine in these cases.

4.3. Management

4.3.1. What is the role of antibiotics?

Erythromycin (250mg orally 6 hourly) should be given for 10 days following the diagnosis of PPRM from 20 weeks' gestation only if there no clinical evidence of chorioamnionitis or maternal sepsis.

Women with PPRM are at increased risk of infection. Oral erythromycin is indicated as antibiotic prophylaxis only. If there is clinical evidence of chorioamnionitis or maternal sepsis, a septic work-up should be obtained and broad spectrum intravenous antibiotics commenced. The choice of antibiotics used can be determined locally but should include appropriate cover for GBS, E. coli, Listeria and anaerobes. Delivery is indicated in the management of chorioamnionitis.

Co-amoxiclav is not recommended for women with PPRM because of concerns about necrotizing enterocolitis.

Sixteen trials involving over 6,300 women with PPRM between 20 and 37 weeks were included in a meta-analysis (Kenyon, 2010). The use of antibiotics following PPRM is associated with a statistically significant reduction in chorioamnionitis (RR 0.66; 95% CI 0.46 to 0.96). There was a significant reduction in the numbers of babies born within 48 hours (RR 0.71; 95% CI 0.58 to 0.87) and seven days (RR 0.79; 95% CI 0.71 to 0.89). Neonatal infection was significantly reduced in the babies whose mothers received antibiotics (RR 0.67; 95% CI 0.52 to 0.85). There was also a significant reduction in the number of babies with an abnormal cerebral ultrasound scan prior to discharge from hospital (RR 0.81; 95% CI 0.68 to 0.98). There was no significant reduction in perinatal mortality although there was a trend for reduction in the treatment group. Long-term follow-up at seven years of age however showed that antibiotics seemed to have little effect on the health of the children (RR 1.01; 95% CI 0.91 to 1.12).

This review shows that routine antibiotic administration to women with PPRM reduces some markers of maternal and neonatal morbidity. This does not translate into a significant reduction in perinatal mortality. The authors conclude that the decision to prescribe antibiotics is not clear-cut. Although antibiotic administration following PPRM is associated with neonatal benefits this is not translated to either benefit or harm with longer term seven year follow-up. Benefits in short term outcomes should be balanced against a lack of evidence of benefit for perinatal mortality and long term outcome. If antibiotics are prescribed, it is unclear which would be the antibiotic of choice. Co-amoxiclav should be avoided because of the increased risk of neonatal necrotizing enterocolitis.

The Cochrane collaboration previously presented results on antibiotic use in 2005 (Kenyon, 2005). There was a variation in the choice of antibiotics used and the duration of therapy in the studies examined in the meta-analysis. Ten trials tested broad spectrum penicillin, either alone or in combination, five tested macrolide antibiotics (erythromycin) either alone or in combination and one trial tested clindamycin and gentamycin. The duration of treatment varied between two doses and 10 days. Any penicillin (except co-amoxiclav) or erythromycin versus placebo was associated with a significant reduction in the numbers of babies born within 48 hours and who had positive blood cultures. Co-amoxiclav versus placebo was associated with an increase in the numbers of babies born with necrotizing enterocolitis.

On balance it would seem reasonable to prescribe prophylactic erythromycin because of the reduction in some markers of maternal and neonatal morbidity. The view of this guideline is that it is reasonable to prescribe antibiotics from 20 weeks gestation. In addition the risk of intrauterine infection is higher in early gestations partly because of the less well developed antimicrobial properties of amniotic fluid. Therefore oral erythromycin is indicated as antibiotic prophylaxis.

Women with PPRM are at increased risk of infection. Oral erythromycin is indicated as antibiotic prophylaxis only. If there is clinical evidence of chorioamnionitis or maternal sepsis, a septic work-up should be obtained and broad spectrum intravenous antibiotics commenced. The choice of antibiotics used can be determined locally but should include appropriate cover for GBS, *E. coli*, *Listeria* and anaerobes. Delivery is also indicated in the management of chorioamnionitis.

If Group B streptococcus is isolated in cases of PPRM, antibiotics should be given in line with the recommendations for routine intrapartum prophylaxis.

4.3.2. What is the role of antenatal corticosteroids?

Antenatal corticosteroids should be administered in women with PPRM.

A meta-analysis of 15 randomised controlled trials involving more than 1400 women with preterm rupture of the membranes demonstrate that antenatal corticosteroids reduce the risks of respiratory distress syndrome (RR, 0.56; 95% CI, 0.46-70), intraventricular haemorrhage (RR, 0.47; 95% CI 0.31-0.70), and necrotizing enterocolitis (RR, 0.21; 95% CI 0.05-0.82). They do not appear to increase the risk of infection in either mother (RR, 0.86; 95% CI 0.61-1.20) or baby (RR, 1.05; 95% CI 0.66-1.68) (Harding, 2001).

The indications for antenatal corticosteroid therapy include women with PPRM between 24 and 34 weeks' gestation.

4.3.3 Should tocolytic agents be used?

Prophylactic Tocolysis in women with PPRM without uterine activity is not recommended.

Women with PPRM and uterine activity who require intrauterine transfer or antenatal corticosteroids may be considered for a short course of tocolysis. However this decision needs to be considered in light of the possibility of pre-existing intrauterine infection, the only clinical feature of which might be uterine activity. If there is a significant suspicion of chorioamnionitis, then tocolysis is not recommended.

Prophylactic tocolysis

Three randomised studies on a total of 235 patients with PPRM reported that the proportion of women remaining undelivered 10 days after membrane rupture were not significantly higher in those receiving tocolysis compared to those receiving none (How, 1998; Levy and Warsof, 1985; Dunlop, 1986). A retrospective case – control study showed that tocolysis after PPRM did not increase the interval between membrane rupture and delivery or reduce neonatal morbidity (Jazayeri, 2003).

Therapeutic tocolysis

A randomised trial investigation involving 30 women demonstrated that delivery can be inhibited for 24 hours by intravenous ritodrine (Christensen, 1980). Three other studies examining premature labour associated with premature rupture of the membranes did not show benefit with tocolysis (Weiner, 1988; Garite, 1987; Coombs, 2004).

In the absence of clear evidence that tocolysis improves neonatal outcome following PPRM, it is reasonable not to use them. Additionally, with PPRM in the presence of uterine contractions, it is possible that tocolysis could have adverse effects, such as delaying delivery from an infected environment, since there is an association between intrauterine infection, prostaglandin and cytokine release and delivery. However, the benefits of antenatal steroids apply equally to women with PPRM and, in some clinical circumstances, the risk-benefit ratio may lead to consideration of tocolysis for this purpose. Similarly, it would seem wise to consider tocolysis for transfer of women, depending on clinical circumstances.

It should be noted that in some patients with PPRM, the only clinical feature of chorioamnionitis may be uterine activity, in particular if antibiotics have been given. Therefore caution should be used before deciding to administer tocolysis in the setting of PPRM with a clear risk-benefit balance being considered. Similarly, it would therefore seem reasonable to consider a short course of tocolysis in select cases, for example for transfer of women with PPRM to a unit with appropriate neonatal intensive care facilities or to complete a course of antenatal steroids, depending on clinical circumstances.

4.3.4. When is the appropriate time to deliver?

Delivery should be considered after 34 weeks' gestation. Where expectant management is considered beyond this gestation, women should be informed of the increased risk of chorioamnionitis and the decreased risk of respiratory problems in the neonate. Ideally, women who are managed with an expectant plan beyond 34 weeks should be delivered no later than 36 weeks and 6 days gestation.

The decision to deliver or manage expectantly in cases of PPROM requires an assessment of risks related to the development of intrauterine infection in those pregnancies managed expectantly compared with the gestational age-related risks of prematurity in pregnancies delivered earlier.

A recent retrospective study examining 430 women with PPROM demonstrated that composite neonatal minor morbidity such as hyperbilirubinaemia and transient tachypnoea of the newborn was higher among pregnancies delivered at 34 weeks' gestation or less as compared with those delivered at 36 weeks (Lieman, 2005). Composite major neonatal morbidity including RDS and IVH was not significantly different.

A randomised trial assigning 93 women with PPROM between 32 and 36 weeks and 6 days' gestation either to immediate or delayed delivery showed that the incidence of RDS, IVH and confirmed neonatal sepsis was not significantly different in the two groups (Mercer, 1993). Although, in the expectantly managed group the 27.7% incidence of chorioamnionitis was higher than the 10.9% in the induced group, this difference did not reach statistical significance.

In another report, 129 women with PPROM between 30 and 34 weeks' gestation were randomly assigned to either immediate delivery or expectant management (Cox, 1995). The mean gestational age at delivery was 31.7 weeks in the immediate delivery group and 32 weeks in that managed expectantly. Although the incidence of chorioamnionitis was significantly less in the immediate delivery group (2%) as compared with the expectant management group (15%; $p < 0.05$), there were no differences between the groups with regard to neonatal morbidity.

In a prospective randomised study of 120 women with PPROM between 34 and 37 weeks, the expectantly managed group had a higher incidence of chorioamnionitis (16%) compared with the immediate delivery group (2%, $p < 0.05$). The incidence of sepsis was 5% in the expectantly managed group and 0% in the immediate delivery group but this was not statistically significant. There was no difference in the risk of RDS. (Naef, 1998).

A retrospective series examining neonatal outcome following cases with PPROM between 32 and 36 weeks showed that the specific gestation for reduced morbidity was 34 weeks (Neerhof, 1999). The incidence of RDS

and the length of hospital stay were reduced in infants delivered after 34 weeks' gestation. The incidence of RDS was 22.5% and 5.8% at 33 and 34 weeks respectively. Although the incidence of RDS beyond 34 weeks was relatively low, the condition affected infants up to 36 weeks with incidences of 10.4% and 1.5% at 35 and 36 weeks respectively.

Many studies have demonstrated benefits in conservative management for gestations of less than 34 weeks, whereas the management of pregnancies complicated by PPROM between 34 and 37 weeks continues to be a contentious issue (Naef, 1998). Proponents for delivery at 34 weeks, argue that because of the lack of significant neonatal benefit with prolongation of the pregnancy until 37 weeks, early delivery is justified to reduce the risk of chorioamnionitis. Data from existing studies call for further research to elucidate the optimal delivery gestational age for women with PPROM between 34 and 37 weeks' gestation.

A Cochrane review of Planned Early Birth Versus Expectant Management for Women with PPROM prior to 37 Weeks' Gestation was published in 2010 (Buchanan, 2010). The conclusions are that there is insufficient evidence to guide clinical practice on the benefits and harms of immediate delivery compared with expectant management.

A recent study examined outcome following a randomised controlled trial of 195 patients with PPROM between 34 and 37 weeks where one group was induced within 24 hours of randomisation after 34 weeks and the other group was managed expectantly until labour was induced at 37 weeks (Van der Ham, 2012). Induction of labour compared with expectant management did not reduce the incidence of neonatal sepsis. Induction did not influence the rates of RDS, hypoglycemia or hyperbilirubinaemia. The caesarean section rate was the same in the induction and expectant management group. However, clinical chorioamnionitis was not seen in the induction group and occurred in four women in the expectant group (4.3%; $p=0.038$). The authors concluded that expectant management with PPROM until 37 weeks is justified.

A large randomised trial of induction compared with expectant management of women with PPROM between 34 and 37 weeks is needed. Until then, some published data question the benefit of continued expectant management beyond 34 weeks of gestation while others argue that early induction after 34 weeks is not justified. There is conflicting data on the benefits of both approaches. There is little evidence that intentional delivery after 34 weeks adversely affects neonatal outcome. There is a suggestion from some studies that expectant management beyond 34 weeks is associated with an increased risk of chorioamnionitis. A longer latency interval with expectant management may allow time for clinical chorioamnionitis, which is either subclinical at the time of membrane rupture or develops with ascending bacterial infection subsequent to membrane rupture. With existing data it is reasonable to suggest that women who are managed expectantly beyond 34 weeks should be delivered no later than 36 weeks and 6 days gestation.

4.3.5 Can women be monitored at home?

Outpatient monitoring should be considered only after a period of 72 hours of inpatient observation.

Womens' preferences should be discussed explicitly. In a randomised study of home versus hospital management outcomes were comparable in the two groups with a similar latency period and gestational age at delivery (Carlan, 1993). There were no significant differences in the frequencies of chorioamnionitis, RDS or neonatal sepsis. However, only 18% of the patients were eligible and agreed to randomisation. The patients were randomised after 72 hours in hospital and 57% and 74% respectively in the home and hospital group had an amniocentesis for Gram stain and culture. This study does not support routine home management in patients with PPRM but supports rigorous individual selection of women for this treatment.

A Cochrane review of planned home versus hospital care for PPRM prior to 37 week' gestation which included two trials involving 116 women concluded that there was insufficient evidence on the safety of home versus hospital management to make recommendations for clinical practice (Abou El Senoun, 2010).

There are insufficient data to make recommendations of home and outpatient monitoring rather than continued hospital admission in women with PPRM. The decision to manage the woman at home should incorporate the finding that women presenting with PPRM and subclinical intrauterine infection deliver earlier than non-infected women. It would be considered reasonable to maintain the woman in hospital for at least 72 hours before a decision is made to discharge. This method of management should be individualized and restricted to certain women. Women should be instructed to take regular temperature recordings at home every four to eight hours and be advised of the signs of chorioamnionitis.

4.3.6. Should amnioinfusion in labour be carried out?

Amnioinfusion during labour is not recommended in women with preterm rupture of membranes.

There is insufficient evidence to recommend amnioinfusion in very preterm PPRM as a method to prevent pulmonary hypoplasia.

PPROM places the fetus at risk for umbilical cord compression and amnioinfusion has been described as a method of preventing this complication. Amnioinfusion during labour has been the subject of a Cochrane review involving 19 studies (Hofmeyr, 2012) with selection criteria of randomised trials of amnioinfusions compared with no amnioinfusions in women with babies at risk of umbilical cord compression

in labour. Transcervical amnioinfusion was associated with a reduction in caesarean section (RR 0.62, 95% CI 0.46 to 0.83), fetal heart rate decelerations (RR 0.53, 95% CI 0.38 to 0.74) and Apgar score less than seven at five minutes (RR 0.47, 95% CI 0.30 to 0.72). However the authors concluded that there were methodological limitations to the trials and the trials were too small to address the possibility of rare but serious maternal adverse effects of amnioinfusion. It was stated that more research is needed to confirm these findings.

Another Cochrane review (Hofmeyr, 2011) with selection criteria of randomised trials of amnioinfusion compared to no amnioinfusion in women with PPRM found that transabdominal amnioinfusions was associated with a reduction in pulmonary hypoplasia (RR 0.22, 95% CI 0.06 to 0.88; one trial, 34 participants) and neonatal death (RR 0.30, 95% CI 0.14 to 0.66; two trials, 94 participants). The authors concluded that although the results are encouraging, the data set is small and the methodological robustness is unclear. Further evidence is required before amnioinfusion for PPRM can be recommended for routine clinical practice.

4.3.7 What is the role of fibrin glue for sealing of chorioamniotic membranes to prevent pulmonary hypoplasia?

There is insufficient evidence to recommend fibrin sealants as routine treatment for second trimester oligohydramnios due to PPRM.

There are publications involving small numbers with midtrimester PPRM describing transvaginal or transabdominal injection of fibrin into the amniotic fluid with the aim of sealing the membranes (Quintero, 1999; Sciscione, 2001; Young, 2000). The "amniopatch" resulted in an increase in amniotic fluid volume in some cases. Larger studies are needed examining neonatal outcome before this treatment can be recommended as routine practice.

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6. Implementation Strategy

- Distribution of guideline to all members of the Institute and to all maternity hospitals.
- Implementation through HSE Obstetrics and Gynaecology programme local implementation boards.
- Distribution to other interested parties and professional bodies.

7. Key Performance Indicators

To be developed.

8. Qualifying Statement

This guideline has been prepared to promote and facilitate standardisation and consistency of practice, using a multidisciplinary approach. Clinical material offered in this guideline does not replace or remove clinical judgement or the professional care and duty necessary for each pregnant woman. Clinical care carried out in accordance with this guideline should be provided within the context of locally available resources and expertise.

This Guideline does not address all elements of standard practice and assumes that individual clinicians are responsible for:

- Discussing care with women in an environment that is appropriate and which enables respectful confidential discussion.
- Advising women of their choices and ensure informed consent is obtained.
- Meeting all legislative requirements and maintaining standards of professional conduct.
- Applying standard precautions and additional precautions, as necessary, when delivering care
- Documenting all care in accordance with local and mandatory requirements.