

# **Preterm Birth, Preterm Labour and Delivery Prevention Clinical Guideline**

**V2.2**

**October 2020**

## 1. Aim/Purpose of this Guideline

- 1.1. Preterm labour is defined as labour after 22 weeks gestation and before 37 weeks gestation and is a major cause of perinatal morbidity and mortality. This guideline gives guidance to Obstetricians and Midwives on identifying those at risk of preterm labour, the recognition of pre-term labour and the management of established pre-term labour and delivery should this arise.
- 1.2. This guideline also gives guidance to obstetricians and midwives on the use of Magnesium Sulphate for fetal neuroprotection in pre-term birth, including pre-term labour, induction of labour and emergency caesarean section before 34 weeks gestation.
- 1.3. This version supersedes any previous versions of this document.
- 1.4. This guideline makes recommendations for women and people who are pregnant. For simplicity of language the guideline uses the term women throughout, but this should be taken to also include people who do not identify as women but who are pregnant, in labour and in the postnatal period. When discussing with a person who does not identify as a woman please ask them their preferred pronouns and then ensure this is clearly documented in their notes to inform all health care professionals (NEW 2020).

### **Data Protection Act 2018 (General Data Protection Regulation – GDPR) Legislation**

The Trust has a duty under the DPA18 to ensure that there is a valid legal basis to process personal and sensitive data. The legal basis for processing must be identified and documented before the processing begins. In many cases we may need consent; this must be explicit, informed and documented. We cannot rely on opt out, it must be opt in.

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## 2. The Guidance

### 2.1. Prevention of Preterm Birth in a Singleton Pregnancy

#### 2.1.1. Initial risk assessment

All women should be screened at booking for risk factors for Preterm birth. Risk factors for the general population to be aware of include smoking, maternal age under 18 years, domestic violence, urinary tract infections, vaginal infections. To help reduce the risk of preterm labour in these patients groups, ensure that they are offered the appropriate pathways e.g.

- **Smoking cessation** – inform the woman that smoking doubles the risk of preterm delivery and therefore they should be encouraged to stop and offered referral to Smoking Cessation Team
- **Women <18 years** should be informed that they have a higher risk of preterm birth and should be offered support and advice and a referral to WILD made
- **Domestic violence** – sensitive questioning regarding possible domestic violence and offer referral to IDVA's if DV is disclosed
- **Urinary tract infections** – ensure booking MSU is sent, the results checked and any UTI treated. After treatment a further MSU should be sent. Any women with a history of recurrent UTI's should be referred to their area consultant for a plan
- **Vaginal infections**, gonorrhoea and chlamydia are associated with preterm birth and screening should be offered to at risk women and the results followed up and acted upon

#### 2.1.2. Further risk assessment

At booking a further risk assessment should occur to identify women at HIGH or INTERMEDIATE risk of preterm birth.

#### 2.1.3. High risk group

- Previous preterm birth or mid-trimester loss (16 to 34 weeks gestation)
- Previous preterm rupture of membranes <34 weeks
- Previous cervical cerclage or history of trachelectomy
- Known uterine variant (unicornuate uterus, significant bicornuate uterus or uterine septum)
- Ashermann's syndrome

#### 2.1.4. Intermediate risk group

- Previous caesarean section at full dilatation
- History of single LLETZ with depth >10mm depth
- More than one LLETZ (irrespective of depth)
- Cone biopsy (by knife or laser, irrespective of depth)

#### 2.1.5. Women identified as HIGH risk should be referred to the Preterm Prevention Clinic via email ([rcht.prempreventionclinic@nhs.net](mailto:rcht.prempreventionclinic@nhs.net)).

These women will also need to be referred to their area consultant if there are additional risk factors. These women will be seen by a Consultant and midwife sonographer at 16 weeks where they will have an individualised plan based on their previous history. After discussion of the implications and possible interventions of a shortened cervix, they will be offered a cervical length scan at this appointment and repeated every 2-4 weeks until 24 weeks. Women with a history of

previous cerclage or trachelectomy will be seen after their dating scan and offered either repeat cerclage or cervical length surveillance. Additional investigations (e.g. swabs for infection) or interventions such as prophylactic progesterone will be considered on an individual basis.

- 2.1.6. Women identified as INTERMEDIATE risk should be referred to their area consultant, who can review notes/histology and refer for a single cervical length at 18 weeks if indicated. If this cervical length is greater than 30mm they will be discharged from the Preterm Prevention clinic back to routine care. If the cervical length is 25-30mm a further scan will be organised in 2 weeks.
- 2.1.7. Additional use of fetal fibronectin alongside cervical length scanning in asymptomatic women will be decided by the Preterm Prevention team.
- 2.1.8. Women with a history of preterm birth should be assessed as to whether this was associated with placental disease and if so should be encouraged to take aspirin 150mg from 12 weeks gestation.
- 2.1.9. All women who had had a preterm birth should be advised of the symptoms and signs of preterm labour and advised to contact her midwife if she experiences any of them.
- 2.1.10. Women who have required an intervention should remain under consultant led care for the duration of the pregnancy. Women who have had normal cervical length scans, who are otherwise low risk (other than the preterm loss/birth), can be discharged back to midwifery led care.
- 2.1.11. **Management of women with a shortened cervix on scan**  
Management of women with a shortened cervix (<25mm) on TV scan between 16-24 weeks:
  - If previous PPROM or cervical trauma consider cervical suture or prophylactic vaginal progesterone (Cyclogest Vaginal Pessaries PV until 34/40 gestation). Discuss the risk/benefits of both options with the women and make a shared decision based on which treatment option is most suitable
  - If previous spontaneous loss or birth (ie delivery 16-34 weeks) – offer prophylactic cervical cerclage or prophylactic vaginal progesterone depending on the woman's wishes. Discuss the risk/benefits of both options with the women and make a shared decision based on which treatment option is most suitable

### 2.1.12. Indications of cervical suture

#### Offer:

- Rescue suture – if no evidence of chorioamnionitis and no bleeding or contractions
- Previous delivery 16-34 weeks and cervical length <25mm
- Women who have had a previous cervical cerclage
- NB. women who have a previous failed cervical suture (ie delivery <28 weeks) should be considered for an abdominal cervical cerclage
- Women who have had 3 or more losses/births (16-34 weeks)

#### Consider:

- For women who have a history of preterm rupture of membranes <34 weeks or cervical surgery and cervix <25mm (offer if <15mm)
- Women who have had 2 losses/preterm births (16-34 weeks)

2.1.12.1. Low risk women who have a coincidental finding of a short cervical length should **not** automatically be offered a cervical suture as there is limited data to support the use of a cervical suture in this situation. Each case should be individualised and the options discussed with the woman.

2.1.12.2. It is not known whether a cervical suture is beneficial for women who have had a Caesarean section at full dilatation and a short cervix in a subsequent pregnancy. The CRAFT study has been designed to prove the evidence regarding this. RCHT is planning to offer eligible women who have had a CSFD and are found to have a short cervix into this trial once it has been set up. In the meantime there needs to be a discussion with the woman about the potential advantages and disadvantages of cervical suture, prophylactic vaginal progesterone or conservative management so that an informed decision can be made.

### 2.1.13. Rescue Cervical Cerclage

- Do not offer this if signs of infection, active bleeding or uterine contractions
- Consider a rescue cervical cerclage in women from 16 weeks up until 28 weeks who have a dilated cervix and exposed, unruptured fetal membranes
- This needs to be a consultant decision only
- Risks of the procedure (rupture of membranes, infection, delivery) along with the benefits (aims to delay the birth to increase the likelihood of survival and reduce the risk of serious neonatal morbidity) should be discussed with the woman and an informed choice made

### 2.1.14. Women with a Cervical Suture (NEW 2020)

For all women who have had a cervical cerclage a clear plan for suture removal needs to be made and documented in the patient records.

Removal of the suture does not require anaesthetic and can usually be performed in a delivery room.

Suture removal should occur if:

- The pregnancy has reached 37 weeks
- There is active bleeding
- There is cervical dilation on speculum/VE or active signs of labour
- There is ruptured membranes
- There is evidence of chorioamnionitis
- Induction of labour is required for another reason

NB. Abdominal sutures are not removed

## 2.2. Diagnosing Preterm Labour

### 2.2.1. Routine gestation limits for interventions

Intervention	Gestation from 24+0 until:
Magnesium Sulphate	33+6
Atosiban	33+6
Steroids	34+6
Fetal Fibronectin	34+6 (for transfer) 33+6 (for Atosiban)

### 2.2.2. Initial management

- Establish accurate gestational age
- Take history to include character of any pain, vaginal loss, fetal movements and
- any non-obstetric symptoms
- General examination relevant to presenting symptoms
- Abdominal palpation for tenderness, palpable contractions to include strength and length, fundal height, fetal lie, presentation and descent
- Abdominal ultrasound if presentation not clear on palpation
- Mid-stream urinalysis to exclude infection. Send for culture if positive for leucocytes and nitrites and treat with antibiotics pending result (not co-Amoxiclav because of the risk of Necrotising Enterocolitis)
- Consider necessity for Fibronectin testing (See Section 3.3.) before proceeding to vaginal examination

### 2.2.3. Vaginal Examination

- 2.2.3.1. Undertake vaginal Cusco speculum to assess the cervix, presence of liquor or blood. Fetal Fibronectin to be undertaken (FFN) if no contraindications (see section 3.3).
- 2.2.3.2. If pooling of amniotic fluid is observed, do not perform any diagnostic test but offer care consistent with the woman having PPRM (see guideline).
- 2.2.3.3. If there is uncertainty as to whether the fluid observed is amniotic fluid or discharge consider performing an Actim PROM test if the history is strongly suggestive of PPRM.
- 2.2.3.4. If the Actim PROM is positive, do not use the test results alone to decide what care to offer the woman, but also take into account her clinical condition, her medical and pregnancy history and gestational age, and either:
  - offer care consistent with the woman having PPRM
  - re-evaluate the woman's diagnostic status at a later time point
- 2.2.3.5. If the Actim PROM is negative or there is no pooling of fluid then explain to the woman that it is unlikely that she has PPRM, but that she should return if she has any further symptoms suggestive of PPRM or preterm labour.
- 2.2.3.6. Digital vaginal examination (if PPRM or placenta praevia not suspected) for cervical consistency, position, station of presenting part, effacement and dilatation. This should not be performed prior to FFN.

### 2.2.4. Fibronectin Testing

#### 2.2.4.1. Who to Test

- Women who are being considered for tocolysis
- Women who are being considered for in utero transfer
- Fibronectin levels are higher in multiple pregnancies so thresholds for treatment are more likely to be reached. However, a low level may assist conservative management.

#### 2.2.4.2. Contraindications to Testing

- Vaginal bleeding (if only spotting, can be used cautiously after discussion with the Obstetric Registrar. Microscopic spots of blood cause false positive tests however a negative test is still valid.) (NEW 2020)
- Ruptured membranes (amniotic fluid contains a large amount of Fibronectin)

- Intercourse or vaginal examination with lubricant with the last 24 hours (false positives more likely, although negative result still useful)
- Gestation <24 weeks or >34+6 weeks

#### 2.2.4.3. **How to Test (See Appendix 3)**

- Read the instructions in the kit prior to commencing
- Perform a speculum examination to visualise the cervix. DO NOT use lubricants, use tap water
- Gently soak the swab in the secretions of the posterior vaginal fornix for 10 seconds, avoiding getting large amounts of mucus on the swab
- Process the swab according to the kit instructions

#### 2.2.4.4. **Interpretation of Fibronectin Results**

Use **quantitative** fetal fibronectin when interpreting fibronectin results and counselling patients. The positive predictive value increases with increasing fibronectin results. The result should be put into the QUiPP App along with the other clinical details to give a risk of preterm birth over the next 7 days and be used as a decision tool for ongoing management (NEW 2020)

#### 2.2.5. **QUiPP App (NEW 2020)**

The QUiPP app is a decision support tool that uses medical history and fetal fibronectin and/or cervical length to give an individualised score for the risk of having a spontaneous preterm delivery. The app is free to download on Apple or Android and it is advised that members of the Obstetric team download it when joining the department. It is also available to use online at [www.quipp.org](http://www.quipp.org)

Management should be dependent on QUiPP risk:

- If risk of birth within 1 week <5% admission/in-utero transfer is not required. Consider alternative diagnoses and reassurance of low chance of preterm birth should be given to the woman.
- If the risk is >5% admission + targeted steroids should be considered (in some cases admission for observation only is appropriate)

#### 2.2.6. **In Utero Transfer**

There is a regional agreement only to transfer in utero if the Quipp risk is >5% or there is other objective evidence of preterm labour (PPROM, cervical change).

There is agreement from all units that if NICU accept then Delivery Suite should accept unless on divert.



## **2.3. Women presenting Prior to 24/40 Gestation (and see section 2.10)**

- 2.3.1. Survival of extremely preterm infants has steadily increased since 2006. Guidance from the British Association of Perinatal Medicine (BAPM) suggests neonatal stabilisation may be considered for babies born from 22+0 weeks of gestation following assessment of risk and multiprofessional discussion with parents. This is not appropriate for all infants and the decision for resuscitation needs to be made after counselling from the neonatal Consultant considering all risk factors. These patients are usually discussed with the tertiary neonatal team prior to a final decision being made. These multidisciplinary discussions should be considered an urgent priority on presentation in view of the speed and unpredictability of preterm birth.
- 2.3.2. Resuscitation is not appropriate for babies born prior to 22 weeks, however if delivery is not imminent at presentation counselling should be offered from 21+5 weeks gestation, as this may enable transfer prior to the viable limit.
- 2.3.3. The decision to perform a fetal fibronectin prior to 24 weeks should be made by a senior Obstetrician.
- 2.3.4. Counselling by a senior Neonatologist should occur prior to decision for steroids and in utero transfer.
- 2.3.5. Counselling should be documented in the patient's notes. If the decision not for resuscitation is made, steroids and in utero transfer are not appropriate. This decision should be reviewed regularly, and these women discussed at the daily neonatal/obstetric meeting. Unless documented otherwise active resuscitation should occur from 24 weeks.
- 2.3.6. For women presenting in advanced labour after 22 weeks gestation, these babies will be considered extremely high risk as they have not been optimized antenatally. Ideally an urgent discussion should occur with the neonatal team to decide on the use of steroids, magnesium sulphate and presence at delivery. If there is no time for discussion prior to birth, a senior neonatologist should be present at delivery.

## **2.4. Administration of Corticosteroids**

- 2.4.1. Maternal antenatal corticosteroids reduce the risk of neonatal respiratory distress syndrome, intraventricular haemorrhage and death. Optimal benefit is observed if delivery is between 24 hours and 7 days of administration but benefits may occur before and after these times.
- 2.4.2. The decision to prescribe steroids should be made by an experienced obstetrician. It is a balance between the clear benefits of the medication and the potential to waste that benefit if given when likelihood of delivery is low (especially for the women who deliver >2 weeks later and still <34+6 weeks). Steroids will usually be given only after objective

evidence of cervical change but in cases of a convincing past and present history this is not mandatory.

- 2.4.3. Steroids should be offered at 24+0-34+6 weeks gestation to women at risk of preterm birth. The decision to prescribe them at earlier gestations should be made by the Obstetric Consultant with input from the neonatal team.
- 2.4.4. Dexamethasone 12mg IM, two doses, 24 hours apart should be administered.
- 2.4.5. DO NOT reduce the interval between doses to 12 hours. There is no evidence of additional benefit and the benefit of the second dose may be wasted (receptors may still be saturated by the first dose).
- 2.4.6. For women with diabetes please see Management of Diabetes in Pregnancy Guideline.

## 2.5. Tocolysis

### 2.5.1. Using Tocolysis

RCOG guidance states that it is reasonable not to use tocolytic drugs, as there is no clear evidence that they improve outcome. However both NICE and RCOG recommend tocolysis should be considered to complete a course of steroids or for intrauterine transfer providing there are no contraindications.

### 2.5.2. Atosiban (Tractocile®) is the tocolytic of choice

- Licensed for use in pregnancy to delay preterm delivery
- Oxytocin antagonist
- IV administration
- Initial bolus, then high dose infusion for 3 hours followed by low dose infusion for <45 hours
- Half-life is 13 minutes so there is no additional risk of Post-Partum Haemorrhage.
- If contractions re-commence after Atosiban has been stopped, it can be restarted if steroid course is incomplete

### 2.5.3. Atosiban Side Effects

Nausea is very common (decreased by giving bolus slowly). Hyperglycaemia headache and dizziness, tachycardia, hot flush, hypotension, vomiting and injection site reaction are common. Insomnia, pruritis, rash, pyrexia and allergic reaction are uncommon.

### 2.5.4. Prerequisites for Using Atosiban

- Regular uterine contractions lasting 30 seconds at a rate of  $\geq 4$  in 30 minutes

- Cervical dilation of 0 to 3 cm
- Gestation from 24+0 to 33+6 weeks
- Normal fetal heart rate
- Risk of delivery >5% in the next 7 days
- Agreement from consultant on call (who may also consider use at >3cm, <24weeks or >33+6 weeks)

**2.5.5. Prerequisites Discussion and Documentation of risks and benefits with verbal consent.**

Acknowledge absence of licence for Preterm Pre Labour Rupture of Membranes (PPROM) < 30 weeks and limited experience of use in multiple pregnancies.

**2.5.6. Contra-indications to Using Atosiban**

- Risk of delivery <5% in next 7 days
- Evidence of fetal compromise
- Intrauterine infection
- Any maternal or fetal condition that warrants delivery (e.g. pre-eclampsia)
- Known hypersensitivity to Atosiban or any of the contents in Tractocile®

**2.5.7. Relative Contra-indications to using Atosiban**

- Rupture of membranes –unless requiring transfer out to another unit
- Antepartum haemorrhage, unless reviewed by an Obstetric Consultant
- Fetal Growth Restriction

**2.5.8. Administration of Atosiban –**

See flow chart on next page

Give 6.75mg (0.9ml of 7.5mg/ml of solution from vial)  
IV over 1 minute via a 1ml syringe



*Prepare infusion in 0.9% sodium chloride*

Withdraw 10ml from 100ml bag and discard  
Add 10ml of 7.5mg/ml concentrate  
(From 2 vials) to the bag and mix well\*

Resulting solution contains 750micrograms/ml



Set pump to run infusion at **24ml/hr for 3 hours**  
I.e. set 'volume to be infused' to 72ml  
When pump alarms at end of 72 ml DO NOT discard remaining solution



Decrease rate to **8ml/hr**

\*For subsequent bags withdraw 5ml from a 50ml 0.9% sodium chloride bag and discard

Add 5ml of 7.5mg/ml concentrate (i.e. 1 vial) to the bag and run at **8ml/hour** for 50ml

- Discontinue if labour establishes
- Review after 24 hours. In most cases, discontinuation is reasonable
- Total duration of treatment should not exceed 48 hours

#### 2.5.9. **Monitoring whilst on Atosiban**

- MEOWS chart record maternal blood pressure every 15 minutes for the first hour then hourly until the infusion rate is reduced. Then continue 4 hourly.
- Blood Glucose at start of treatment and 4 hourly thereafter
- A plan for the assessment of fetal wellbeing should be determined by the
- Obstetrician and will depend on gestation and cause for preterm labour

## 2.6. Magnesium Sulphate

- 2.6.1. Magnesium Sulphate should be considered in women in established preterm labour (cervical dilatation of >4cm with regular contractions) or having a planned preterm delivery 24 and 33+6 weeks gestation.
- 2.6.2. Women 22+0-23+6 in established preterm labour who have requested active resuscitation.
- 2.6.3. Magnesium Sulphate given to mothers shortly before delivery reduces the risk of cerebral palsy and protects gross motor function in those infants born preterm. The effect may be greatest at early gestations (<30 weeks) and is not associated with adverse long-term fetal or maternal outcome.
- 2.6.4. **Regime:**

- **Loading dose: Magnesium Sulphate 4 grams**
  - Draw up 20mls of MgSO<sub>4</sub> 20% (4grams) (New 2019)
  - Give manually over 5 minutes IV (New 2019)
- **Maintenance dose: Magnesium Sulphate 1 gram per hour**
  - Draw up 50mls (10 grams) of MgSO<sub>4</sub> 20%
  - Give IV using syringe driver at rate of 5mls/hour
- **If there is a supply issue with 20% MgSo<sub>4</sub> then see Appendix 3**
  - If delivery is imminent it is appropriate to give only the loading dose
  - For a planned LSCS delivery start the regime 4 hours prior to expected delivery time

### 2.6.5. Care of the Women

- 2.6.5.1. Women should receive routine care for pre-term labour; this should be recorded on a partogram and on the obstetrics pages.
- 2.6.5.2. In addition a MEOWS chart must be commenced for hourly maternal.
- 2.6.5.3. Observations of temp, respiratory rate, pulse and blood pressure, tendon reflexes, fluid intake and urine output. If the MEOWS score begins to rise, there are any concerns about urinary output or tendon reflexes are slow or are absent there must be a medical review.
- 2.6.5.4. Women should be advised of an increased risk of hypotension and tachycardia and minor adverse effects, such as facial flushing, nausea, vomiting, sweating and injection site problems.

- 2.6.5.5. If there are signs of magnesium toxicity (oliguria, respiratory depression or suppressed/absent reflexes), medical review should be requested and if this is not possible the infusion stopped. Calcium Gluconate should be used if evidence of magnesium toxicity.

## **2.7. Fetal Monitoring**

- 2.7.1. There is an absence of evidence that the use of cardiotography (CTG) improves the outcome for a preterm baby compared with intermittent auscultation. A woman in established preterm labour with no other risk factors, after discussion about the role of different monitoring, can be offered a choice of either continuous CTG or intermittent auscultation. Additional risk factors include maternal hypertension, meconium stained liquor, fresh vaginal bleeding, suspected chorioamnionitis, oxytocin use or prolonged rupture of membranes.
- 2.7.2. In high risk cases CTG should be used from 28/40. Prior to this gestation the decision about fetal monitoring should be made by a senior obstetrician and in some circumstances no monitoring may be appropriate.
- 2.7.3. Fetal scalp electrodes should not be routinely used prior to 34/40.
- 2.7.4. Fetal blood sampling should not be performed prior to 34/40 and with caution under 37 weeks gestation.
- 2.7.5. ST Analysis should not be used prior to 36 weeks.

## **2.8. Management of Labour and Delivery**

- 2.8.1. If cephalic presentation and no additional risk factors aim for a vaginal birth. The safety of ventouse delivery prior to 36/40 is uncertain, and it is contraindicated prior to 34/40.
- 2.8.2. The decision about mode of delivery in non-vertex presentations should be made with the on call obstetric consultant after a consideration of the risks and benefits of caesarean section.
- 2.8.3. Ensure neonatal team are present at delivery.
- 2.8.4. If mother and baby are stable, delay cord clamping for 3mins- ensure baby is positioned level or below the placenta prior to cord clamping.
- 2.8.5. If immediate cord clamping is required DO NOT milk the cord (NEW 2020).
- 2.8.6. Keep cord long as it may be required for venous access.
- 2.8.7. Babies delivered at less than 32/40 gestation should be placed in a plastic bag without drying, a hat placed on baby's head (after drying) and nursed under a heat source.

## 2.9. IV antibiotics for labour

- 2.9.1. All women, irrespective of Group B Streptococcus (GBS) history or status, should be offered Intrapartum antibiotic prophylaxis (IAP), to prevent a possible transmission of GBS, once labour has established with regular contractions and cervical dilatation > 4cm. This is regardless of PPROM or intact membranes (NEW 2017).
- 2.9.2. Antibiotics should not be offered for threatened preterm labour in the absence of membrane rupture (NEW 2017).
- 2.9.3. IAP is not required for preterm caesarean section in the absence of membrane rupture (New 2017).

## 2.10. Neonatal Issues

- 2.10.1. Inform Neonatal Unit of threatened / established preterm labour.
- 2.10.2. An experienced neonatal practitioner should discuss anticipated neonatal management with the woman and her partner.
- 2.10.3. The decision for in utero transfer should be made after discussion with Consultant Obstetrician and Neonatologist.
- 2.10.4. Management of extremes of viability should involve the Consultant Obstetrician and Neonatologist in discussion with the parents. Ideally with a current ultrasound determined EFW.
- 2.10.5. The anticipated prognosis for a baby should be evaluated by senior obstetric and neonatal staff taking into account not just gestational age but other factors such as fetal sex, fetal number, estimated fetal weight, whether steroids have been given and place of birth.

### 2.10.5.1. **23+0 weeks to 23+6 weeks**

If gestational age is certain at 23+0–23+6 weeks and the fetal heart is heard during labour, a professional experienced in resuscitation should attend the birth. A decision not to start resuscitation may be appropriate in the best interests of the baby, particularly if the parents have expressed this wish following antenatal counselling. However, if following counselling by the neonatal registrar/consultant, the parents wish their baby to be resuscitated (or where there is no time for discussion with the parents), the neonatal team should be present at delivery. The current best estimates of outcome from the British Association of Perinatal Medicine (BAPM) Framework for Practice (2019) quotes a 40 % survival for those babies that are born alive and receive active stabilisation and a 1 in 4 chance of severe disability.

#### 2.10.5.2. **22+0 weeks to 22+6 weeks**

If gestational age is certain at 22+0–22+6 weeks an experienced Obstetrician should discuss the poor outlook for babies born at this gestation. This will usually be a Consultant except in very acute situations when the Consultant is not immediately available. Accurate data for babies born at this gestation are not available because numbers are very small and the survival data are highly influenced by selection bias. However, the BAPM Framework for Practice (2019) quotes a 30 % survival for those babies that are born alive and receive active stabilisation and a 1 in 3 chance of severe disability. Overall, for babies alive at the onset of labour, 6% will live without severe disability.

If parents are keen for active neonatal care of their baby, senior neonatal staff should provide further counselling prior to birth when possible and if parental view is unchanged then the neonatal team should be present at delivery. The decision for active stabilisation should be individualised.

If there is no time for antenatal discussion of parental wishes, a Paediatric Consultant should attend the birth.

#### 2.10.5.3. **<22 weeks**

If the gestational age is certain and less than 22+0 weeks it is considered in the best interests of the baby, and standard practice, for resuscitation not to be carried out. The obstetric team should discuss this with the parents and document the discussion. The parents should be informed that their baby may attempt to gasp and move when born, will be kept comfortable, treated with respect, dignity and love.



### 3. Monitoring compliance and effectiveness

Element to be monitored	<ul style="list-style-type: none"> <li>• Atosiban</li> <li>• Magnesium Sulphate Regime</li> <li>• Antibiotics for pre-term labour</li> </ul>
Lead	Obstetric Audit Lead
Tool	<ul style="list-style-type: none"> <li>• Women who receive Atosiban fit the criteria as identified in the guideline</li> <li>• Are all women who present in established pre-term labour offered Magnesium Sulphate</li> <li>• Are all women in established pre-term labour offered intrapartum antibiotics</li> <li>• Is a MEOWS chart commenced for hourly maternal observations of temp, respiratory rate, pulse, blood pressure, tendon reflexes, fluid intake and urine output</li> </ul> <p>Adherence will be monitored as part of the ongoing audit process within the department on a Word or Excel template specific to the topic.</p>
Frequency	10 sets of notes. Further audit to be commenced if need identified through Patient Safety process
Reporting arrangements	To be presented at perinatal audit meeting
Acting on recommendations and Lead(s)	<ul style="list-style-type: none"> <li>• Any deficiencies identified will be discussed at the Patient Safety Meeting and clinical audit forum and an action plan developed</li> <li>• An action plan lead will be identified and a time frame for the action</li> <li>• The action plan will be monitored by the Patient Safety Meeting and clinical audit forum</li> </ul>
Change in practice and lessons to be shared	<ul style="list-style-type: none"> <li>• Required changes to practice will be identified and actioned within a time frame agreed on the action plan</li> <li>• A lead member of the forum will be identified to take each change forward where appropriate.</li> <li>• The results will be distributed to all staff through the Patient Safety newsletter/audit forum as per the action plan.</li> </ul>

### 4. Equality and Diversity

4.1. This document complies with the Royal Cornwall Hospitals NHS Trust service Equality and Diversity statement which can be found in the '[Equality, Inclusion & Human Rights Policy](#)' or the [Equality and Diversity website](#).

4.2. Equality Impact Assessment

The Initial Equality Impact Assessment Screening Form is at Appendix 2.

## Appendix 1. Governance Information

<b>Document Title</b>	Preterm Birth, Preterm Labour and Delivery Prevention Clinical Guideline V2.2		
<b>This document replaces (exact title of previous version):</b>	Prevention of Preterm Birth, Pre Term Labour and Delivery Clinical Guideline V2.1		
<b>Date Issued/Approved:</b>	September 2020		
<b>Date Valid From:</b>	October 2020		
<b>Date Valid To:</b>	18 <sup>th</sup> April 2023		
<b>Directorate / Department responsible (author/owner):</b>	Karen Watkins & Rob Holmes Consultant Obstetrician		
<b>Contact details:</b>	01872 252270		
<b>Brief summary of contents</b>	<p>This guideline gives guidance to Obstetricians and Midwives on identifying those at risk of preterm labour, the recognition of pre-term labour and the management of established pre-term labour and delivery should this arise.</p> <p>This guideline also provides guidance for the use of magnesium sulphate prior to pre-term Caesarean Section</p>		
<b>Suggested Keywords:</b>	Pre-term labour, premature birth, fetal Fibronectin, Atosiban, Magnesium Sulphate, neuro protection, steroids		
<b>Target Audience</b>	RCHT ✓	CFT	KCCG
<b>Executive Director responsible for Policy:</b>	Medical Director		
<b>Approval route for consultation and ratification:</b>	Maternity Guidelines Group Speciality Group		
<b>General Manager confirming approval processes</b>	Mary Baulch Care Group Manager		
<b>Name of Governance Lead confirming approval by specialty and care group management meetings</b>	Caroline Amukusana		
<b>Links to key external standards</b>	CNST 2.1		
<b>Related Documents:</b>	<ul style="list-style-type: none"> <li>• RCOG Clinical guideline No 60 (2011). Cervical Cerclage</li> <li>• NICE guidance (2015) Preterm labour and birth.</li> <li>• RCOG Clinical guideline No 26 (2011). Operative vaginal delivery.</li> <li>• RCHT Clinical guideline (2014) Newborn Life Support</li> </ul>		

	<ul style="list-style-type: none"> <li>• The Management of Babies born Extremely Preterm at less than 26 weeks of gestation A Framework for Clinical Practice at the time of Birth (2008). British Association of Perinatal Medicine</li> <li>• Broad-spectrum antibiotics for Preterm, Prelabour Rupture of the Fetal Membranes (2001) Kenyon SL, Taylor DJ, Tarnow-Mordi W. ORACLE Group. Lancet</li> <li>• A. Fetal Fibronectin—how useful is it in the prediction of preterm birth?. (2003) Leitch, H, Kaider BJOG</li> <li>• Fetal Fibronectin as a short-term predictor of preterm birth in symptomatic patients: a meta-analysis (2009) Sanchez-Ramos L; Delke I; Zamora J; Kaunitz AM. Obstet Gynecol.</li> <li>• Antenatal Corticosteroids to prevent Respiratory Distress Syndrome- Clinical Guideline (2004) RCOG</li> <li>• Tocolytic drugs for Women in Preterm Labour Clinical Guideline (2002) RCOG</li> <li>• Prevention of Early Onset Neonatal Group B Streptococcal Disease – Clinical Guideline (2003) RCOG</li> <li>• Operative Vaginal RCOG, SAC opinion paper - Clinical Guideline (2011) RCOG Prevention of early onset group B streptococcal disease- RCOG green top guideline 36</li> </ul>			
<b>Training Need Identified?</b>	No			
<b>Publication Location (refer to Policy on Policies – Approvals and Ratification):</b>	Internet & Intranet	✓	Intranet Only	
<b>Document Library Folder/Sub Folder</b>	Clinical / Midwifery and Obstetrics			

### Version Control Table

Date	Version No	Summary of Changes	Changes Made by (Name and Job Title)
January 2007	V1.0	Initial issue	Mr R Holmes, Consultant Obstetrician
November 2010	V1.1	Addition of Atosiban and Fetal Fibronectin	Mr R Holmes, Consultant Obstetrician

March 2012	V1.2	Addition of Magnesium Sulphate regime	Dr Karen Watkins, Consultant Obstetrician and Jan Clarkson, Maternity Risk Manager
20 <sup>th</sup> January 2016	V1.3	Minor changes including advice on Interpretation of Fibronectin results and Deferred Cord Clamping. Flow chart added prioritising drugs administration in imminent and non-imminent births.	Dr Karen Watkins, Consultant Obstetrician
17 <sup>th</sup> February 2017	V1.4	Updated in line with latest NICE, 2016 evidence (cervical screening) and merged with Magnesium Sulphate for Fetal Neuroprotection in Pre-term birth Clinical Guideline (with amended gestation limits for use)	Mr Rob Holmes, Consultant Obstetrician Dr Helen Le Grys, Obstetric Registrar
7 <sup>th</sup> December 2017	V1.5	Section 2.8; updated in line with latest RCOG guidance	Mr Rob Holmes, Consultant Obstetrician
10 <sup>th</sup> August 2018	V1.6	Minor addition-Fibronectin levels are higher in multiple pregnancies so thresholds for treatment are more likely to be reached. However, a low level may assist conservative management	Mr Rob Holmes, Consultant Obstetrician
7 <sup>th</sup> February 2019	V1.7	Amendments to MgSO4 regime following a National Patient Safety Alert and appendix 4 added in case previous regime needing to be followed in the rare instance of the new ampule not being available *Not previously uploaded to the DL	Sophie Haynes, Consultant Obstetrician
May 2020	V2.0	1.4. Addition of inclusion information in introduction 2.5.6.1. 2.5.6.2. Addition of need to review women within 30 minutes of arrival on Delivery Suite and 6 hourly in labour	Julie Walton Audit Midwife
July 2020	V2.1	<b>(Uploaded under Clinical Guideline title Prevention of Preterm Birth, Preterm Labour and Delivery Clinical Guideline).</b> GDPR updated template 1.4. Inclusion statement 2.8.5. Change regarding milking the cord in accordance with Resuscitation Council Appendix 1 updated Governance template Appendix 2 updated EIA template	Sophie Haynes, Consultant Obstetrician

September 2020	V2.2	<p>Title confirmed as Preterm Birth, Preterm Labour and Delivery Clinical Guideline</p> <p>1.1. Update to preterm labour gestation to after 22 weeks</p> <p>2.1.2. – 2.1.10. Addition of booking risk assessment to identify women at HIGH or INTERMEDIATE risk of preterm birth and associated care pathway.</p> <p>2.1.14. Update to cervical suture guidance</p> <p>2.2.4.4. Update to interpretation of Fibronectin testing and QUIPP</p> <p>2.2.5. Inclusion of QUIPP app</p> <p>2.3. Addition of women presenting prior to 24/40 gestation</p> <p>2.10. Update to resuscitation in relation to gestational age</p> <p>2.5. Categories for use of Atosiban updated</p> <p>2.6. Use of Magnesium Suphate updated to include Women 22+0-23+6 in established preterm labour who have requested active resuscitation.</p> <p>2.10.5 Gestations for commencing resuscitation updated.</p>	Helen LeGrys Obstetric Consultant
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#### **Controlled Document**

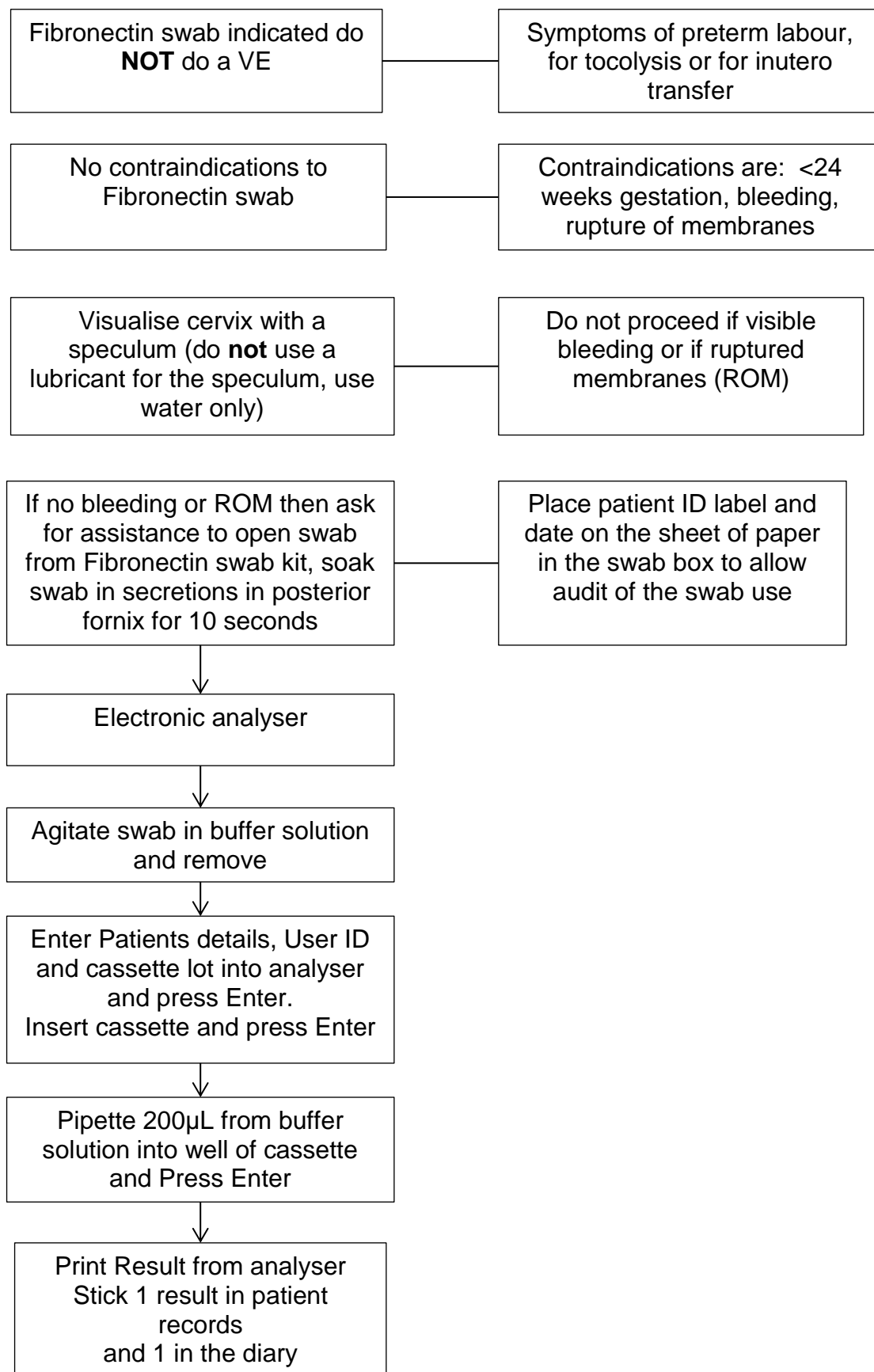
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## Appendix 2. Equality Impact Assessment

<b>Section 1: Equality Impact Assessment Form</b>						
<b>Name of the strategy / policy /proposal / service function to be assessed</b> Preterm Birth, Preterm Labour and Delivery Prevention Clinical Guideline V2.2						
<b>Directorate and service area:</b> Obstetrics and Gynaecology			<b>Is this a new or existing Policy?</b> Existing			
<b>Name of individual/group completing EIA</b> Dr Rob Holmes, Consultant Obstetrician			<b>Contact details:</b> Via switchboard 01872 250000			
1. Policy Aim Who is the strategy / policy / proposal / service function aimed at?		This guideline gives guidance to Obstetricians and Midwives on the recognition of pre-term labour, how to arrest pre-term labour and the management of established pre-term labour and delivery should this arise.				
2. Policy Objectives		To ensure threatened or suspected pre-term labour is managed in line with current evidence based practice				
3. Policy Intended Outcomes		To identify pre-term labour early enough to arrest it and if labour progresses to achieve the best possible outcome for the pre-term baby.				
4. How will you measure the outcome?		Compliance Monitoring Tool				
5. Who is intended to benefit from the policy?		Women in preterm labour				
6a). Who did you consult with?		Workforce	Patients	Local groups	External organisations	Other
		x				
b). Please list any groups who have been consulted about this procedure.		<b>Please record specific names of groups:</b> Maternity Guidelines Group Speciality Group				
c). What was the outcome of the consultation?		Guideline agreed				

<b>7. The Impact</b>				
Please complete the following table. If you are unsure/don't know if there is a negative impact you need to repeat the consultation step.				
Are there concerns that the policy <b>could</b> have a positive/negative impact on:				
Protected Characteristic	Yes	No	Unsure	Rationale for Assessment / Existing Evidence
<b>Age</b>		<b>X</b>		All women in threatened or established pre-term labour
<b>Sex</b> (male, female non-binary, asexual etc.)		<b>X</b>		All women in threatened or established pre-term labour
<b>Gender reassignment</b>		<b>X</b>		All women in threatened or established pre-term labour
<b>Race/ethnic communities /groups</b>		<b>X</b>		All women in threatened or established pre-term labour
<b>Disability</b> (learning disability, physical disability, sensory impairment, mental health problems and some long term health conditions)		<b>X</b>		All women in threatened or established pre-term labour
<b>Religion/ other beliefs</b>		<b>X</b>		All women in threatened or established pre-term labour
<b>Marriage and civil partnership</b>		<b>X</b>		All women in threatened or established pre-term labour
<b>Pregnancy and maternity</b>		<b>X</b>		All women in threatened or established pre-term labour
<b>Sexual orientation</b> (bisexual, gay, heterosexual, lesbian)		<b>X</b>		All women in threatened or established pre-term labour
<p><b>If all characteristics are ticked 'no', and this is not a major working or service change, you can end the assessment here as long as you have a robust rationale in place.</b></p> <p>I am confident that section 2 of this EIA does not need completing as there are no highlighted risks of negative impact occurring because of this policy.</p>				
<b>Name of person confirming result of initial impact assessment:</b>			Dr Rob Holmes, Consultant Obstetrician	
<p><b>If you have ticked 'yes' to any characteristic above OR this is a major working or service change, you will need to complete section 2 of the EIA form available here: <a href="#">Section 2. Full Equality Analysis</a></b></p>				
<p><b>For guidance please refer to the Equality Impact Assessments Policy (available from the document library) or contact the Human Rights, Equality and Inclusion Lead <a href="mailto:debby.lewis@nhs.net">debby.lewis@nhs.net</a></b></p>				

### Appendix 3: Procedure for Fibronectin Swabs





## Appendix 4

### When MgSo4 20% is unavailable

If MgSo4 20% is unavailable please use 50% MgSo4 following the same Regimen:

**Magnesium Sulphate Regimen:** Magnesium Sulphate (MgSO<sub>4</sub>) is the treatment of choice for the first fit.

**Loading dose: Magnesium Sulphate 4 grams**

- 8mls of MgSO<sub>4</sub> (50%) diluted with 12mls Normal Saline (0.9%) = Total 20mls
- Give IV over 20 minutes using syringe driver rate of 60 mls/hour

**Maintenance dose: Magnesium Sulphate 1 gram per hour**

- 20mls MgSO<sub>4</sub> (50%) diluted with 30mls Normal Saline (0.9%) = Total 50mls
- Give IV using syringe driver at rate of 5mls/hour