REF: CTM Obs 115/

MM204



## Management of Pre Term Labour

Initiated By	Cwm Taf Morgannwg University Health Board Obstetrics and			
	Gynaecology Directorate			
Approval Group	Antenatal, labour ward, neonatal and Guideline groups			
Distribution	Midwifery, Medical and Neonatal staff within Cwm Taf Morgannwg			
	University Health Board (via email)			
Archiving	Directorate secretary will be responsible for archiving all versions			
Document Location	Health Board WISDOM			
	Hard copy in fileshare-pch			
Freedom of Information	Open			

#### **CHANGE HISTORY**

Ve	ersion	Date	Author Job Title	Reasoning
2		March 2023	KB Consultant obstetrician	Update of pre term management and guideline to Include In utero transfer information and flowchart

#### AUTHORSHIP, RESPONSIBILITY AND REVIEW

Author	Karin Bissling	Ratification Date	APRIL 2023
Job Title	Consultant Obstetrician	Review Date	APRIL 2026

#### **Disclaimer**

When using this document please ensure that the version is the most up to date by checking the Obstetrics & Gynaecology Guidelines on WISDOM

#### PRINTED DOCUMENTS MUST NOT BE RELIED ON

#### **CONTENTS**

1	Introduction	1
2	Information and Support	2
3	Vaginal Progesterone and Cervical Cerclage	2-3
4	Diagnosis of preterm labour (with intact membranes)	4
5	Fetal Fibronectin Testing	5-7
6	Tocolysis	8-10
7	Maternal Corticosteroids	10 - 12
8	Magnesium sulphate for neuroprotection	12-13
9	In-utero transfer	13-16
10	Intrapartum antibiotics	17-18
11	Fetal monitoring	18-20
12	Mode of birth	20
13	Thermoregulation	20-21
14	Maternal breast milk	21
15	Optimal cord management for preterm babies (born vaginally or	21
	by caesarean section	
16	Auditable standards	22
17	References	22-23
18	Appendix 1 In utero transfer form	24
19	Appendix 2 Fetal fibronectin form	25
20	Appendix 3 Suspected pre -term labour Pathway/ indication for	26
	transfer	
21	Appendix 4 All Wales In Utero Transfer Guidelines	26

#### 1. Introduction

Preterm labour is defined as onset of established labour before 36 weeks and 6 days of pregnancy inclusive. Diagnosis is made by the onset of regular uterine contractions leading to progressive cervical effacement and dilation.

Preterm labour complicates around 10% of all pregnancies. The majority of preterm births do so after spontaneous onset of preterm labour, however some women give birth preterm electively when this is thought to be in fetal or maternal best interest. Preterm birth is the single biggest cause of neonatal mortality and morbidity in the UK. The risk of neonatal mortality increases as gestational age at birth decreases. Babies who survive preterm birth have increased rates of disability. The major long-term consequence of prematurity is neurodevelopmental disability.

Prevention of preterm birth is not always indicated and in most cases labour between 34 and 37 weeks will be allowed to continue.

This guideline covers recommendations on:

- prophylactic vaginal progesterone and prophylactic cervical cerclage
- magnesium sulphate (MgSO4) for neuroprotection
- intrapartum antibiotics
- diagnosing preterm labour
- Tocolysis
- maternal corticosteroids
- fetal monitoring
- mode of birth and delayed clamping of the umbilical cord
- In-utero transfer

Preterm prelabour rupture of membranes (PPROM) is covered in a separate guideline.

#### 2. Information and support

Provide the woman and her family with oral and written information on the care she will be offered. This information should include risks for the baby (long and short term morbidity as well as mortality). The neonatal team should be closely involved in care planning and, where possible, the parents should be given the opportunity to visit the neonatal unit as well as a consultation with a neonatal doctor.

#### 3. Vaginal progesterone and cervical cerclage

Discuss both options and offer a choice of *prophylactic* vaginal progesterone (Cyclogest® pessary 400mg daily, unlicensed) or *prophylactic* cervical cerclage to women who have both:

- a history of spontaneous preterm birth up to 34<sup>+0</sup> weeks of pregnancy or a mid-trimester loss from 16<sup>+0</sup> weeks onwards and
- results from a transvaginal ultrasound scan carried out between
   16<sup>+0</sup> and 24<sup>+0</sup> weeks that show a cervical length of 25 mm or less.

Prophylactic vaginal progesterone can be considered for women who have either:

- a history of spontaneous preterm birth up to 34<sup>+0</sup> weeks or midtrimester loss from 16<sup>+0</sup> weeks onwards or
- results from a transvaginal ultrasound scan carried out between
   16<sup>+0</sup> and 24<sup>+0</sup> weeks that show a cervical length of 25 mm or less.

Treatment with vaginal progesterone should start between 16<sup>+0</sup> and 24<sup>+0</sup> weeks and continue until at least 34 weeks.

*Prophylactic* cervical cerclage can be considered for women when results of a transvaginal ultrasound scan carried out between 16<sup>+0</sup> and 24<sup>+0</sup> weeks show a cervical length of 25 mm or less, and who have had either:

- preterm prelabour rupture of membranes (PPROM) in a previous pregnancy or
- a history of cervical trauma (eg. LLETZ or cone biopsy)

#### Rescue cervical cerclage

Rescue cervical cerclage should not be offered to women with:

- signs of infection **or**
- active vaginal bleeding or
- uterine contractions or
- ruptured membranes.

A rescue cervical cerclage can be considered for women between  $16^{+0}$  and  $27^{+6}$  weeks of pregnancy with a dilated cervix and exposed, intact fetal membranes.

The gestational age and the extent of cervical dilation should be taken into account and discussed with a consultant obstetrician.

The risks of the procedure as well as the aim to delay birth to increase the likelihood of the baby surviving and to reduce the risk of serious neonatal morbidity should be discussed with the woman (and her family).

## 4. Diagnosis of preterm labour (with intact membranes)

When preterm labour is suspected information for the woman should include:

- the clinical assessment and diagnostic tests that will be offered;
- how the clinical assessment and diagnostic tests are carried out;
- the benefits, risks and possible consequences of the clinical assessment and diagnostic tests, including the consequences of false positive and false negative test results taking into account gestational age.

Clinical assessment of women reporting symptoms of preterm labour should include:

- Clinical history taking
- Observations including maternal blood pressure, pulse, temperature and respiratory rate.
- Urinalysis
- Fetal auscultation and cardiotocograph (CTG) depending on gestation
- Obstetric abdominal palpation including assessment of uterine activity
- A speculum examination (only using water as lubricant)

If the clinical assessment suggests that the woman is in suspected preterm labour and she is between 23<sup>+0</sup> and 33<sup>+6</sup> weeks pregnant perform fetal fibronectin testing as a diagnostic test to determine the likelihood of birth within 48 hours. (See flowchart -appendix 3)

From **22+0 – 22+6** following MDT discussion consider fetal fibronectin testing where active resuscitation is planned. If the neonatal unit operates a 36 week model fetal fibronectin testing could be considered between

**34**<sup>+0</sup> **and 35**<sup>+6</sup> weeks gestation. A senior obstetrician should be informed of a positive diagnosis.

#### 5. Fetal Fibronectin Testing

Fetal Fibronectin (fFN) is a simple and quick bed-side test that can be used to aid diagnosis, with high sensitivity. A negative test can be safely relied upon to rule out preterm labour and therefore reduce unnecessary intervention and hospital admissions.

Fetal fibronectin is a fibronectin protein produced by fetal cells. It is found at the interface of the chorion and the decidua (between the fetal sac and the uterine lining). Fetal fibronectin "leaks" into the vagina if a preterm delivery is likely to occur and can be measured in a screening test.

A fFN test result <200 ng/mL gives clinicians confidence that preterm labour is not imminent, as less than 1% of women with this result will deliver within 7 days and 8% of women will deliver within 14 days.

Please complete the fFN test proforma found in Appendix 1.

#### Indications for fFN testing

If the clinical assessment suggests that the woman is in suspected preterm labour and she is between 23<sup>+0</sup> and 33<sup>+6</sup> weeks pregnant.

For women between **22+0 and 22+6** following MDT discussion if active resuscitation is planned.

Consider fFN testing between **34<sup>+0</sup> and 35<sup>+6</sup>** weeks gestation if the neonatal unit operates a 36 week model.

#### Contraindications for fFN testing

fFN testing should not be used in any of the following occasions:

- Ruptured membranes
- Cervical dilation of 3cms or more
- Cervical cerclage in situ
- Placenta praevia

#### In the event of:

- moderate or gross vaginal bleeding or
- sexual intercourse within 24 hours

fFN can still be performed. However, only a result of <10 ng/mL can be interpreted as a valid negative result. If the result is  $\geq 10$ ng/mL clinical judgement is advised.

#### Method for carrying out Fetal Fibronectin

The swab or specimen should not be contaminated with lubricants, soaps, disinfectants or creams and therefore it is recommended to collect the specimen prior to digital vaginal examination, collection of culture specimens or transvaginal scanning.

- 1. Perform speculum examination (using only water as a lubricant) and rotate swab across posterior fornix for 10 seconds to allow for absorption of secretions.
- 2. Thoroughly mix swab in liquid extraction buffer provided for 10 seconds.
- 3. Squeeze swab against inside of tube.
- 4. If not testing immediately, snap the swab shaft and replace cap onto test tube until it clicks. This sample is valid for testing for up to 8 hours at room temperature.
- 5. When testing, remove swab and discard and place tube into stand.
- 6. At PeriLynx analyser select test patient on main menu, scan user ID (barcode) and press next.
- 7. Enter rapid fFN Cassette lot number and press next.

- 8. Enter patient ID and press next.
- 9.Insert the rapid fFN cassette and prepare pipette with 200µl (0.2ml) from the patient sample collected in the buffer solution and press next.
- 10.Pipette  $200\mu l$  (0.2ml) from the sample collected in the buffer solution into the well of the rapid fFN cassette and press Start Test.
- 11. When testing is complete, the system will display and print the result.
- 12.Result will be given in ng/mL and should be interpreted and managed according to the table below taking clinical judgement into consideration:

fFn	% who will	% who will	% who will	Suggested management
value	give birth	give birth	give birth	Clinical judgement should
ng/mL	within 7	within 14	before 34	always be taken into
	days	days	weeks	consideration.
<10	1	<2	1.5	Consider alternative diagnoses.
10.40		.2	0.2	Discharge with routine midwife
10-49	0	<2	8.2	follow-up.
50-199	0	<8	11.5	Consider admission.
				Consider corticosteroids.
				Tocolysis not recommended.
200-499	14	29	33	Admit.
				Administer corticosteroids.
				Inform neonatal unit.
≥500	38	46	75	Tocolysis.
				MgSO4 if in labour and <30/40.
				Antibiotics if in labour.

#### 6. Tocolysis

Tocolysis is to be considered when the risk of preterm delivery outweighs that of continuing the pregnancy. Tocolysis is only indicated if there is a need to give corticosteroids. It is reasonable not to use tocolytic drugs as there is no clear evidence that they improve outcome. However, tocolytics should be considered if the few days gained would be put to good use: completing a course or corticosteroids or completing an in-utero transfer.

Take the following factors into account when making a decision about whether to start tocolysis:

- whether the woman is in suspected or diagnosed preterm labour
- other clinical features (for example, bleeding or infection) that may suggest that stopping labour is contraindicated
- gestational age at presentation
- likely benefit of maternal corticosteroids
- availability of neonatal care (need for transfer to another unit)
- the preference of the woman.

#### Indication

Consider tocolysis for women between  $24^{+0}$  and  $25^{+6}$  weeks of pregnancy who have intact membranes and are in suspected preterm labour (fFN  $\geq$ 200 ng/mL or clinical judgement). For gestation between 22 and 24 weeks, it will require MDT discussion with the women in the centre of care about the best way in management of her condition considering the benefits and the risks of any management option

Offer tocolysis to women between  $26^{+0}$  and  $33^{+6}$  weeks of pregnancy who have intact membranes and are in suspected or diagnosed preterm labour (fFN  $\geq$ 200 ng/mL or clinical judgement).

#### Absolute contraindications

Maternal: cardiac shock, aortic stenosis, severe pre-eclampsia

Fetal: severe IUGR, fetal compromise

Obstetric: intra-uterine infection, abruption

#### Relative contraindications

Maternal: cardiac failure, diabetes mellitus, abnormal liver function,

previous hypotensive reaction

Obstetric: ruptured membranes, cervical dilatation >4cm

#### Choice of drug

When tocolysis is indicated **Nifedipine** is the drug of choice (calcium channel blocker, unlicensed). If Nifedipine is contraindicated an oxytocin-reception antagonist (**Atosiban**) should be offered.

Betamimetics (Ritodrine) should not be used for tocolysis.

#### Nifedipine regime

- Loading: 10 mg orally followed by a further 10mg every 20 minutes for a maximum of 4 doses or until the contractions stop (if sooner).
- Maintenance: Then 4 hours after the first administration give 20 mg slow release orally 8 hourly for a maximum of 48 hours.
- Discontinue: 48 hours after commencement of regime OR if significant maternal hypotensive reaction occurs causing severe maternal symptoms, adverse CTG changes or meconium stained liquor.
- Side effects: transient hypotension, flushing, palpitations, headache.

#### Atosiban regime (second line)

- Bolus: 6.75mg intravenously over 1 minute.
- Prepare maintenance infusion: remove 10mL from 100mL Saline 0.9% bag and replace with two 5mL vials of Atosiban 37.5mg/5ml concentrate for solution for infusion (total 75mg) to make up 100mL infusion solution.
- Maintenance: intravenous infusion of 18mg/hour (24mL/hour) for 3 hours followed by 6mg/hour (8mL/hour) for a maximum of 45 hours.
- Replacement infusion bags should be prepared as required and be used within 24 hours of preparation.
- Duration of treatment should not exceed 48 hours and the total dose given during the course should not exceed 330mg Atosiban.

In certain cases, where there are contraindications to Nifedipine and Atosiban, **Indomethacin** (NSAID) can be used, but only in the second trimester as there is a risk of premature closure of the ductus arteriosus in the third trimester. This must be a consultant decision.

# Indomethacin regime (consultant decision, second trimester only)

100mg PR to be repeated 12-24 hours later.

#### 7. Maternal Corticosteroids

For women between **22+0 and 23+6** weeks of pregnancy who are in suspected or established preterm labour, are having a planned preterm birth or have P-PROM discuss with the woman (and her family members or carers, as appropriate) and the multidisciplinary team the use of maternal corticosteroids in the context of her individual circumstances.

Offer maternal corticosteroids to women between **24**<sup>+0</sup> **and 33**<sup>+6</sup> weeks of pregnancy who are in suspected, diagnosed or established preterm labour, are having a planned preterm birth or have PPROM.

Consider maternal corticosteroids for women between **34**<sup>+0</sup> **and 35**<sup>+6</sup> weeks of pregnancy who are in suspected, diagnosed or established preterm labour, are having a planned preterm birth or have PPROM.

When offering or considering maternal corticosteroids, discuss with the woman and her family:

- how corticosteroids may help
- the potential risks associated with them.

Do not routinely offer repeat courses of maternal corticosteroids, but take into account the interval since the end of last course, the gestational age and the likelihood of birth within 48 hours (fFN result).

Please add this paragraph:

Consider a single repeat course of maternal corticosteroids for women less than 34+0 weeks of pregnancy who:

- have already had a course of corticosteroids when this was more than 7 days ago, and
- are at very high risk of giving birth in the next 48 hours.

Where the woman is less than 30+0 weeks pregnant or if there is suspected growth restriction, take into account the possible impact on fetal growth of a repeat course of maternal corticosteroids.

Do not give more than 2 courses of maternal corticosteroids for preterm birth.

When offering or considering maternal corticosteroids, discuss the benefits and risks with the woman (and her family members or carers, as appropriate).

For guidance on the use of corticosteroids in women with diabetes, see the diabetes in pregnancy guideline.

#### Corticosteroid regime

 Betamethasone or Dexamethasone 12mg intramuscular, 2 administrations 24 hours apart.

#### 8. Magnesium sulphate for neuroprotection

For women between 23<sup>+0</sup> and 23<sup>+6</sup> weeks of pregnancy who are in established preterm labour or having a planned preterm birth within 24 hours, *discuss* with the woman and her family the use of intravenous magnesium sulphate for neuroprotection of the baby, in the context of her individual circumstances. For women between 22+0 and 22+6 BAPM recommends a discussion with the woman and her family when active resuscitation is planned.

Offer intravenous magnesium sulphate for neuroprotection of the baby to women between **24**<sup>+0</sup> **and 29**<sup>+6</sup> weeks of pregnancy in the following circumstances and *consider* this for women between **30**<sup>+0</sup> **and 33**<sup>+6</sup> weeks of pregnancy who are:

- In established preterm labour or
- Having a planned preterm birth within 24 hours.

When delivery needs to be expedited for maternal or fetal wellbeing reasons then delivery should not be delayed solely for magnesium sulphate administration.

Magnesium sulphate infusions should not be used during antenatal inutero transfer. If the infusion is solely given for neuroprotection of the fetus the infusion should be discontinued at birth.

#### Magnesium sulphate regime (unlicensed)

- Bolus: 4g intravenous bolus over 15 minutes. Ideally given 4 hours prior to delivery.
- Maintenance: intravenous infusion of 1g per hour until the birth or for 24 hours (whichever is sooner).

For women on magnesium sulphate, monitor for clinical signs of magnesium toxicity at least every 4 hours by recording pulse, blood pressure, respiratory rate and deep tendon reflexes.

If a woman has or develops oliguria or other signs of renal failure monitor more frequently for magnesium toxicity and think about reducing the dose of magnesium sulphate.

#### Antidote

• Calcium gluconate 1g intravenously (10ml of 10% calcium gluconate in 50ml NaCl 0.9%) given over 10 minutes.

#### 9. In-utero transfer

Women presenting in suspected or established labour between 22<sup>+0</sup> and 31<sup>+6</sup> weeks gestation or a multiple pregnancy of less than 34<sup>+0</sup> weeks should be cared for in a hospital where level 3 Neonatal Intensive Care is available.

This assessment should be based on the safety of mother and baby requiring possible transfer. Tocolysis can be considered during the transfer, however delivery during transfer needs to be avoided. Therefore, a careful assessment of the stage and progress of labour will have to be made before the transfer.

The neonatal unit needs to be informed of an admission with suspected or established preterm labour and discussion between the neonatologist and obstetrician should take place whether in-utero transfer is required and appropriate.

#### When is in utero transfer indicated?

An in utero transfer is indicated when there is an increased risk of delivery within the next seven days for one or more of the following reasons.

- Maternal medical or surgical condition needing tertiary level input.
- Fetal medical or surgical condition needing iatrogenic delivery at tertiary centre with facilities and capacity for neonatal management, including for any diagnosed subspecialty condition (cardiac).
- High risk of spontaneous or iatrogenic birth in a unit without facility or capacity to manage the newborn (usually due to prematurity) as per All Wales Service Specification.

For pregnant women who are suspected to be in preterm labour, the risk of premature birth should be assessed with, at least, quantitative fetal fibronectin before a decision to transfer is made.

#### Which patients are not suitable for in utero transfer?

The following patients are not normally considered suitable for in utero transfer:

 Pregnancy less than 22 weeks for fetal reasons – Lower or uncertain gestations could be considered on a case by case basis. In some circumstances (parental choice) it is appropriate to transfer a pregnant woman at gestation between 22 and 23 weeks.

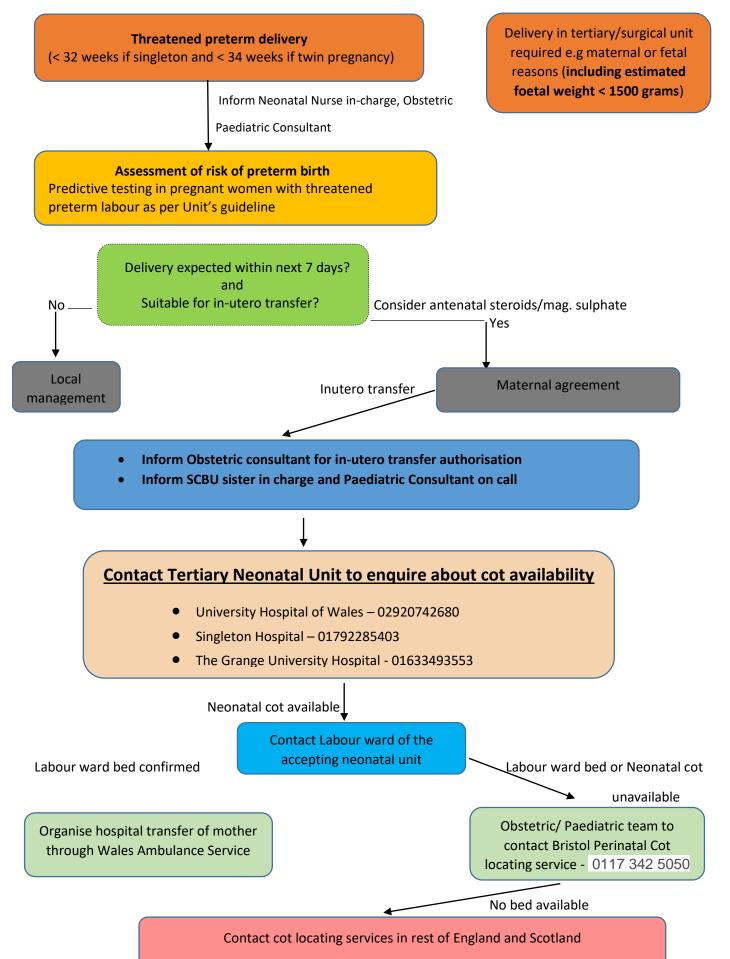
- Potentially lethal fetal condition where active intervention of the foetus was not being considered even if live born. (In cases of fetal abnormalities it is useful to discuss these cases with fetal medicine specialists.)
- Active labour where the cervix is more than three centimetres dilated.
- Maternal condition which may require intervention during transfer (antepartum haemorrhage or uncontrolled hypertension).
- Known maternal or fetal compromise requiring immediate delivery, including abnormal Cardiotocography (CTG).

An All Wales in-utero transfer form (see Appendix 2) should be completed and the transfer should be agreed in line with the All Wales In-Utero Transfer Guideline (Appendix 4) by neonatal, obstetric and midwifery team of the receiving unit.

Please see IUT flowchart page 15.



#### **In-utero transfer pathway**



#### 10. Intrapartum antibiotics

The risk of early onset Group B Streptococcal (GBS) disease in infants delivered prematurely is estimated to be 2.3 per 1000. The risk of GBS infection is higher with preterm delivery and the mortality rate from infection is increased (20-30% vs 2-3% at term).

Offer intrapartum antibiotics to women in confirmed preterm labour, with or without intact membranes.

Intrapartum antibiotics for the prevention of GBS are not recommended for women having a planned preterm caesarean section with intact membranes.

If the woman decides to take intrapartum antibiotic prophylaxis, give the first dose as soon as possible and continue prophylaxis until the birth of the baby.

#### Choice of antibiotic

Benzyl penicillin sodium (first line)

- Bolus: 3g intravenous as soon as possible after the onset of labour.
- Maintenance: 1.8g intravenous every 4 hours until delivery.

#### Penicillin allergy

The antibiotic chosen will depend on the confidence of the diagnosis of penicillin allergy and the severity of penicillin allergy.

If the history suggests that the reaction described is *not* likely to be allergic in nature (e.g. vomiting only) then penicillin should be given.

If the history suggests an **allergy** to beta-lactams, but one that is **not severe** (i.e. no anaphylaxis, angioedema, respiratory distress or urticaria), then a cephalosporin can be administered intravenously: cefuroxime 1.5g loading dose followed by 750 mg every 8 hours until delivery.

If the **allergy** to beta-lactams is **severe** then intravenous *vancomycin 1g every 12 hours* is recommended until delivery.

Pre-dose vancomycin levels are only required if the patient is to receive more than 4 doses. Contact the pharmacy Department for advice if necessary.

Clindamycin can no longer be recommended as the current resistance rate in the UK is 16%.

#### 11. Fetal monitoring

Discuss with women in suspected, diagnosed or established preterm labour (and their family):

- The purpose of fetal monitoring and what it involves.
- The clinical decisions it informs at different gestational ages.
- If appropriate, the option not to monitor the fetal heart rate (for example, at the threshold of viability).

Involve a senior obstetrician in discussions about whether and how to monitor the fetal heart rate for women who are between **22**<sup>+0</sup> **and 25**<sup>+6</sup> weeks pregnant.

Explain the different fetal monitoring options to the woman and her family, being aware that:

- there is limited evidence about the usefulness of specific features to suggest hypoxia or acidosis in preterm babies
- the available evidence is broadly consistent with that for babies born at term
- a normal cardiotocography trace is reassuring and indicates that the baby is coping well with labour, but an abnormal trace does not necessarily indicate that fetal hypoxia or acidosis is present.

Explain to the woman and her family that there is an absence of evidence that using cardiotocography improves the outcomes of preterm labour for the woman or the baby compared with intermittent auscultation.

Offer women in established preterm labour but with no other risk factors a choice of fetal heart rate monitoring using either:

- cardiotocography using external ultrasound or
- · Intermittent auscultation.

#### Fetal Scalp Electrode

Do *not* use a fetal scalp electrode (FSE) for fetal heart rate monitoring if the woman is **less than 34**<sup>+0</sup> weeks pregnant unless all of the following apply:

- it is not possible to monitor the fetal heart rate using either external cardiotocography or intermittent auscultation
- it has been discussed with a senior obstetrician
- the benefits are likely to outweigh the potential risks
- the alternatives (immediate birth, intermittent ultrasound and no monitoring) have been discussed with the woman and are unacceptable to her.

Discuss with the woman and her family the possible use of a FSE between **34**<sup>+0</sup> **and 36**<sup>+6</sup> weeks of pregnancy if it is not possible to monitor the fetal heart rate using either external cardiotocography or intermittent auscultation.

#### Fetal Blood Sampling

Do *not* carry out fetal blood sampling (FBS) if the woman is **less than 34**+0 weeks pregnant.

#### 12. Mode of birth

Discuss the general benefits and risks of caesarean section and vaginal birth with women in suspected, diagnosed or established preterm labour (and their family).

Explain to women in suspected, diagnosed or established preterm labour about the benefits and risks of caesarean section that are specific to gestational age. In particular, highlight the difficulties associated with performing a caesarean section for a preterm birth, especially the increased likelihood of a vertical uterine incision and the implications of this for future pregnancies.

Explain to women in suspected, diagnosed or established preterm labour that there are no known benefits or harms for the baby from caesarean section, but the evidence is very limited.

Consider caesarean section for women presenting in suspected, diagnosed or established preterm labour between 26<sup>+0</sup> and 36<sup>+6</sup> weeks of pregnancy with breech presentation.

#### 13. Thermoregulation

For all babies < 34 weeks, thermoregulation is crucial, immediately after delivery, even before the umbilical cord is clamped. The room should be as warm as possible with windows shut. Hypothermia in preterm infants increases risk of death, hypoglycaemia, metabolic acidosis, respiratory distress and acidosis, necrotising enterocolitis, coagulation defects and intraventricular haemorrhage.

Improve temperature, by using a plastic bag (do not dry baby before), putting a hat on baby and using a heater, using real time temperature monitoring during resuscitation.

#### 14. Maternal breast milk – expressing before 36 weeks

Early colostrum is vital for the wellbeing of preterm babies. Expressing should not be routinely recommended before 36 weeks, however if an early birth is planned then it can be discussed on an individual basis with obstetric/neonatal input as part of the multidisciplinary care planning as appropriate (See guideline for antenatal expressing).

Expressing of breast milk should start as soon as possible after delivery ideally within one hour but certainly within 6 hours of birth.

## 15. Optimal cord management for preterm babies (born vaginally or by caesarean section)

If a preterm baby needs to be moved away from the mother for resuscitation, or there is significant maternal bleeding:

- Consider milking the cord (Cord milking is only recommended in babies > 28 weeks gestation as per NLS guidelines.)
- Clamp the cord as soon as possible.

Wait at least 60 seconds, but no longer than 3 minutes, before clamping the cord of preterm babies if the mother and baby are stable.

Position the baby at or below the level of the placenta before clamping the cord.

#### 16. Auditable standards

- Percentage of women presenting in suspected preterm labour that had a fetal fibronectin test performed before 34 weeks gestation.
- Percentage of women presenting in suspected preterm labour that had a positive fetal fibronectin test (fFN >199).
- Percentage of women presenting in suspected preterm labour that had a fetal fibronectin test result between 50-199.
- Percentage of women presenting in suspected preterm labour that had a positive fetal fibronectin test (fFN >199) and delivered within 2 weeks.
- Percentage of women with a positive fetal fibronectin test (fFN >199) before 34 weeks gestation that were offered steroids (100%) and received steroids (100%).
- Percentage of women with a positive fetal fibronectin test (fFN >199) before 30 weeks gestation that were offered MgSO4 (100%) and received MgSO4 prior to delivery (100%).
- Percentage of women in confirmed preterm labour that were offered intrapartum antibiotics (100%) and received these (100%).

#### 17. References

- 1. NICE Guideline 25: Preterm Labour and Birth, Updated August 2019.
- 2. RCOG Greentop Guideline 36: Early-Onset Group B Streptococcal Disease, September 2017.
- Swansea Bay UHB Guideline: Management of Pre-Term Labour, November 2018.

- 4. Cwm Taf UHB Guideline: Guidelines for the use of Fetal Fibronectin Testing, September 2017.
- 5. Norfolk and Norwich University Hospitals: Trust Guideline for the use of Fetal Fibronectin and Actim PROM, June 2019.
- 6. Cardiff and Vale UHB Guideline: Management of Pre-term labour, October 2015.
- 7. Summary of Product Characteristics (SPC) atosibin 37.5mg/5ml. Ranbaxy (UK) Ltd. Accessed via <a href="https://www.medicines.org.uk/emc/product/3262/smpc#USEHANDLING">https://www.medicines.org.uk/emc/product/3262/smpc#USEHANDLING</a> on 25.05.20
- 8. British National Formulary (BNF On-line). Myometrial relaxants. Accessed via <a href="https://www.medicinescomplete.com/#/content/bnf/97167137">https://www.medicinescomplete.com/#/content/bnf/97167137</a> 2 on 25.05.20
- American College of Obstetricians and Gynaecology. Antenatal corticosteroid Therapy for Fetal Maturation. Committee Opinion. Number 715. Aug 2017. Reconfirmed 2018. <a href="https://www.acog.org/clinical/clinical-guidance/committee-opinions/articles/2017/08/antenatal-corticosteroid-theray-for-fetal-maturation">https://www.acog.org/clinical/clinical-guidance/committee-opinions/articles/2017/08/antenatal-corticosteroid-theray-for-fetal-maturation</a>
- All Wales In Utero Transfer Guideline Maternity Network Wales 2015

## 18. Appendix 1



### ALL WALES IN-UTERO TRANSFER COMMUNICATION FORM

ADDRESSOGRAPH

S	MATERNAL DETAILS		FETAL DETAILS
I U A T I O N	Gravida Para Time.  SROM Y/N Date Rh  Medication Comments	Antibodies	EDD Gestation Multiple Pregnancy Y/N No. of fetuses
<b>B</b> < ∪ × ⊖ × 0	Obstetric History  Medical history		Anomalies Y/N Details
0 N D	<ul> <li>Has Mother?</li> <li>Received health care treatments (i outside Wales during last year?</li> <li>If yes, details of treatment</li> <li>Had any infections/positive screening</li> <li>If Yes, please specify</li> </ul>	Y/N Countryresults during pregnancy Y/N	Safeguarding issues Y/N Details
<b>A</b> S S E S	Pre-Term Labour Test: Pos/Neg fet  Vaginal Examination: DateTime	Fetal Compromise? Y/N Comments	
5 S M E N T	Is Mother?  • Currently infected or colonised with resistant or could cause harm to baby • If yes, Sensitivities of organism • Currently on any antimicrobial treatm • If yes, please specify	organism/virus that is multi- ? Y/N/Unknown ent? Y/N	Maternal Steroids? Y/N Date Gest USS Date
	HVS: Y/N Dates/s Sensitive Outstanding Microbiology Results?	AC HC	
R E	TRANSFER FROM:	TRANSFER TO:	
С	Consultant Obstetrician	Consultant Obstetrician	
O M M E N	SPR: DUTY SPR informed LW Coordinator informed Neonatal Unit informed		_
D A T I	Named midwife for transfer:	NB: All must be informed p	prior to transfer
O N	Person completing form:  NAME: DESIGNATION:	SIGNATURE	:

## 19. Appendix 2

### Fetal Fibronectin (fFN) Test Proforma

•	•		
Date:			
Test requested by:		Addressograph	
Designation:			
If previously performed, date of last tes	st://		
Only perform fFN test if <b>all</b> of the follow	ving criteria a	ire met:	
Criteria	Please t	ick if met	
24+0 - 33+6 gestation	110050	iok ii iiio	
Intact membranes			
Cervix ≤ 3cm dilated			
Fetal well-being established			
>14 days since last fFN test			
Absence of placenta praevia Absence of cervical cerclage			
Absence of cervical cerciage			
Moderate or gross vaginal bleeding			
Inoderate or gross vaginar bleeding		If result ≥10ng/mL clinical	
		judgement advised.	
Sexual intercourse within 24 hours		If result <10 ng/mL interpret	
		as negative.	
	Tost performed by:		
	Test performed by:		
	Designation:		
	Designation.		
Test result sticker	Sign:		
	Date:		
	Time:		
Management plan	Please tick	,	
Management plan Discharged and routine follow-up	ricase tick	•	
Steroids given			
Admitted for observation			
Tocolysis given			
Magnesium sulphate given			
In-utero transfer			

# 20. Appendix 3 Suspected pre -term labour Pathway/ indication for transfer



## 21. Appendix 4 All Wales In Utero Transfer Guidelines

