The Shrewsbury and Telford Hospital NHS Trust

Induction of Labour
Version 7.8

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Care Group: Women and Children's
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Version	Implementation Date	History	Ratified By	Full Review Date
1	September 2001	New	Labour Ward forum	Sept 2003
2	December 2006	Updated	Labour Ward Forum Maternity Governance	Dec 2008
3	23rd March 2011	Updated	MGG Maternity Governance	March 2014
4-4.11	7TH October 2011-30th October 2015	History boxes amalgamated at version 5.4. See version 5.3 for full details	MGG	October 2014
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7	15th September 2023	Full review	Maternity Governance	September 2026
7.1		Clarity regarding EFM following IOL with prostaglandins		
7.2	23rd February 2024	Additional considerations added in cases of performing	Maternity Governance	September 2026

		ARM where there is a high risk of cord prolapse		
7.3	20th March 2024	Edited for clarification on maternal observations taken	Maternity Governance	Sep 2026
7.4	17th May 2024	Minor update. Bloods to be taken on admission to ANW	Maternity Governance	Sep 2026
7.5	21st June 2024	Minor update. Clarified PPROM advice and high risk IOL location. Methods of IOL reflect NICE order	Maternity Governance	Sep 2026
7.6	22nd July 2024	Main body of text corrected to match appendix- IOL offered at 41+0 to avoid prolonged pregnancy as per NICE	Maternity Governance	September 2026
7.7	20th March 2025	Indications replaced by hyperlinks to relevant guidance to avoid contradiction between documents.	Maternity Governance	September 2026
7.8	19th September 2025	Minor amendment. Incl use of MIS IOL Booking and ARMs when Bishop score is <7 and red flag classification as a delay of 6 hours	Maternity Governance	September 2026

1.0 Introduction

'In this guideline we use the terms 'woman' or 'mother' throughout. These should be taken to include people who do not identify as women but are pregnant or have given birth'.

Discuss preferences about mode of birth with women early on in their pregnancy. Take into account their individual circumstances, and discuss that options for birth can include:
expectant management, or
induction of labour, or
planned caesarean birth (see the NICE guideline on caesarean birth).

Record these discussions and the woman's preferences in her notes. [2008, amended 2021]
Confirm a woman's preferences for birth at antenatal visits towards the end of pregnancy, as these may have changed since earlier discussions. [2008, amended 2021]

Explain to women that induction of labour is a medical intervention that will affect their birth options and their experience of the birth process. This could include that:

- vaginal examinations to assess the cervix are needed before and during induction, to determine the best method of induction and to monitor progress
- their choice of place of birth will be limited, as they may be recommended interventions (for example, oxytocin infusion, continuous fetal heart rate monitoring and epidurals) that are not available for home birth or in midwife-led birth units
- there may be limitations on the use of a birthing pool
- there may be a need for an assisted vaginal birth (using forceps or ventouse), with the associated increased risk of obstetric anal sphincter injury (for example, third- or fourth-degree perineal tears)
- pharmacological methods of induction can cause hyperstimulation – this is when the uterus contracts too frequently or contractions last too long, which can lead to changes in fetal heart rate and result in fetal compromise
- an induced labour may be more painful than a spontaneous labour
- their hospital stay may be longer than with a spontaneous labour. [2021]

Discuss with women being offered induction of labour:

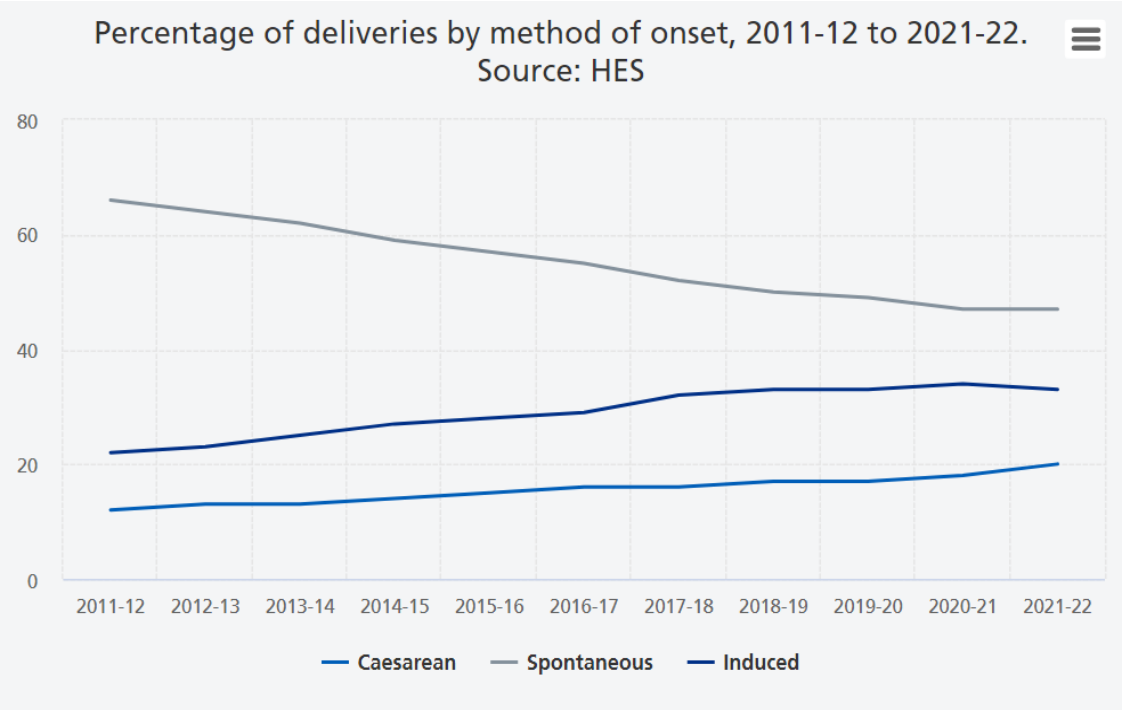
- the reasons for induction being offered
- when, where and how induction could be carried out
- the arrangements for support and pain relief
- the alternative options if the woman chooses not to have induction of labour, or decides at a later stage that she no longer wishes to proceed with the induction process
- the risks and benefits of induction of labour in specific circumstances, and the proposed induction methods
- that induction may not be successful, and how this would affect the woman's options (see the recommendation on Unsuccessful induction). [2008, amended 2021]

When offering induction of labour:

- give women time to discuss this information with others (for example, their partners, birthing companion or family) if they wish to do so before making a decision
- encourage women to look at other information (for example, by providing written information leaflets or encouraging them to look at information on the NHS website or the patient information leaflet on Badgernet (enabled in their timeline) NICE [2021])
- ensure women have the opportunity to ask questions, and time to think about their options
- recognise that women can decide to proceed with, delay, decline or stop an induction. Respect the woman's decision, even if healthcare professionals disagree with it, and do not allow personal views to influence the care they are given. Record the woman's decision in her notes. [2008, amended 2021]

Population studies indicate that the risk of stillbirth increases from 1 per 3000 ongoing pregnancies at 37 weeks to 3 per 3000 ongoing pregnancies at 42 weeks and to 6 per 3000 ongoing pregnancies at 43 weeks. (Reddy et al 2006)

Number of deliveries in NHS hospitals: There were 578,562 deliveries during 2021-22. This is an increase of 3.4 per cent from 2020-21.
Method of delivery: The most common method of delivery was spontaneous.
This was the most common across all age groups, apart from 40 and over where the most common method of delivery was caesarean. (HES)



Spontaneous method of onset is most common as a proportion of total deliveries but has decreased from **66 per cent** in 2011-12 to **47 per cent** in 2021-22.

Caesarean method of onset increased from **12 per cent** to **20 per cent** and induced method of onset from **22 per cent** to **33 per cent** in the period 2011-12 to 2021-22.

'NHS maternity statistics' report data showing that 34% of labours were induced in 2020 to 2021. Almost two-thirds (60 in 100) of these induced women gave birth without forceps/ventouse or caesarean. About 17 in 100 had births assisted with forceps or ventouse and 22 in 100 had an unplanned caesarean birth.

Evidence cited in NICE clinical guideline 70 reports that the reduction in caesarean section is statistically significant in induction of labour in comparison to expectant management.

2.0 Aim

2.1 To provide optimum care for women considering and undergoing induction of labour.
2.2 To provide a care pathway for women undergoing induction of labour which promotes safe care for women and their babies and optimises their birth experience.

3.0 Objectives

3.1 To provide evidence-based information to enable women to understand the process of induction of labour and give informed consent.
3.2 To care for women undergoing induction of labour according to national guidance.

4.0 Definitions/Abbreviations

ARM	Artificial Rupture of Membranes (amniotomy)
IOL	Induction of Labour
PPROM	Preterm Prelabour Rupture of Membranes
PROM	Prelabour Rupture of Membranes at term
Prolonged pregnancy	Pregnancy longer than 42 completed weeks of gestation
SROM	Spontaneous Rupture Of Membranes
SFH	Symphysis- Fundal Height
PGD	Patient Group Direction
VTE	Venous Thromboembolism
Tier 2 or Middle Grade	ST4-7, Staff Grade, Trust Grade Doctor, Associate Specialist Obstetrician
Computerised CTG analysis	A computerised system that analyses antenatal data for gestational of week 26-42, and the analysis uses a set of criteria to assess a CTG recording.

5.0 Process

5.1 Information and Decision Making

Women who are being offered or having IOL will have the opportunity to make informed decisions about their care and treatment which will be in partnership with their midwife or obstetrician. Information will include

- The indication for IOL (risks/benefits of not being induced)
- Where, when and how induction can be carried out.
- Arrangements for support and visiting times of birth partner.
- Alternative options if the woman chooses not to have IOL (expectant management) see section 5.10 for individual management plan
- An explanation that IOL may not be successful and the subsequent options that would be available.
- Where artificial rupture of membranes is deemed to be the next step that this may take more than 24 hours.
- Women should be informed that in some settings IOL may preclude place of birth options such as home or MLU.
- Advise should be given on how IOL may impact on their birth experience and perception of pain

Induction of Labour information leaflet will be provided for women to aid informed decision making when accepting induction of labour.

5.2 Indications for Induction of Labour - REFER TO APPENDIX 1a

5.3 Preceding IOL - Membrane Sweeps

Membrane sweep involves the examining finger passing through the cervix to rotate against the wall of the uterus, to separate the chorionic membrane from the decidua. If the cervix will not admit a finger, massaging around the cervix in the vaginal fornices may achieve a similar effect

Membrane sweeps **will be discussed at the 38-week antenatal appointment** in order to allow decision. Explain what it is, explain that membrane sweeping might make it more likely that labour will start without the need for additional pharmacological or mechanical methods of induction. Explain that there could be side effects such as pain or discomfort during the procedure and light vaginal bleeding and cramps afterwards.

Women should be offered a sweep prior to formal IOL. However, limit the membrane sweeps to two (2). Obtain verbal consent for the procedure and document in the Badgernet notes. If a woman declines a membrane sweep this decision will be respected and supported

Offer membrane sweep as follows

At antenatal visits after 39+0 weeks, discuss with women if they would like a vaginal examination for membrane sweeping, and if so obtain verbal consent from them before carrying out the membrane sweep. [NICE 2008, amended 2021]

Discuss with women whether they would like to have additional membrane sweeping if labour does not start spontaneously following the first sweep. [NICE 2008, amended 2021]

There is limited evidence that frequent membrane sweeps increase the rate of spontaneous labour and offering this intervention should not be made.

5.4 IOL Plan and location

Booking Arrangements for IOL
The recommendation for IOL for women who are considered high risk (identified risk factors) , must be made by a consultant obstetrician, this will include the agreed gestation.
Midwives can arrange IOL for women accepting IOL for prolonged pregnancy (41+0).

After booking the IOL, complete the "Induction of Labour Booking" on the MIS.

See appendix 1b.

Post-dates IOL

Discuss and offer IOL at 41+0, explaining that it may reduce the risks associated with prolonged pregnancy. The risks of prolonging pregnancy past 41+0 include:

- An increased likelihood of caesarean birth
- Increased likelihood of the baby needing admission to neonatal intensive care unit
- Increased likelihood of stillbirth and neonatal death.

The process of IOL should be discussed, with use of the supporting video (available on the SaTH website) to support women to make a decision. If the woman declines the IOL at 41+0, the decision should be reviewed at each contact. If the woman choses to continue the pregnancy past 42+0, she should be referred as early as possible for obstetric review (prior to 42+0), and additional monitoring considered, which may include CTG and ultrasound scan for liquor volume.

Location
Most women will attend the Antenatal Ward for commencement of their IOL.

IOL should be conducted on the consultant delivery suite and be part of the individualised plan made by the Consultant Obstetrician when increased monitoring of either mother or fetus is required, or where there is concern that rapid deterioration could occur. Examples include, but are not limited to: maternal diabetes with abnormal blood glucose monitoring, maternal pre-eclampsia with unstable clinical picture, fetal growth restriction with an EFW < 3rd centile or breech presentation.

On admission for IOL
All documentation should be completed under the "Induction" tab on badgernet

- Complete VTE assessment
- Carry out antenatal assessment to include:
  - Full MEOWS
  - Urinalysis
  - Abdominal palpation
  - SFH measurement (if not undergoing serial growth scans)
- With consent, take admission FBC, Group & Save and any additionally indicated blood samples (eg PET)
- Inform obstetric team of arrival to arrange review
- For guidance on maternal and wellbeing monitoring during the IOL, see sections 5.7 & 5.8

5.5 Methods of IOL

Following admission to the antenatal ward women will have a full clinical review by the on-call obstetrician (tier 2 or above) before commencing the induction, in order to ensure that any antenatal plan made remains appropriate and to ensure that the woman understands the process and risks.

The options for induction of labour can be divided into

- Pharmacological – **refer to Method 1a and 1b**
- Cervical Ripening Balloon (CRB) – **refer to Method 2**
- Amniotomy and intravenous oxytocin– **refer to Method 3**

Explain to women that a vaginal examination to assess the readiness of the cervix will help to decide which method of induction they will be offered first and obtain consent to carry this out. Cervical sweeps should not be performed during this assessment without prior, documented consent.

Pharmacological Methods

This method utilises vaginal prostaglandin (PGE2), this can be administered as a repeated dose of gel (known as Prostin® and referred in this guideline) or slow release pessary (known as Propess® and referred in this guideline).

Note: Prostin® is the preferred method for IOL following SROM

Maximum combined does of Dinoprostone gel

Primipara: 4mg
Multipara: 3mg

Amniotomy

ARM is the preferred method of induction for women with previous caesarean birth due to the increased risk of scar complication associated with the use of Prostaglandins. It may also be appropriate if on first examination the cervix is very favourable.

5.6 Bishop Score of cervical favourability

Vaginal examination and modified Bishop Score					
Score	**Dilatation**	**Length of cervix (cm)**	**Station of presenting part**	**Consistency of cervix**	**Position of cervix**
0	1	3	High cavity and ballotable	Firm	Posterior
1	<2	2	High cavity but fixed	Average	Central
2	<4	1	Mid cavity	Soft	anterior
3	>4	0	Low cavity		

For women with a Bishop score of 6 or less, offer induction of labour with dinoprostone as vaginal tablet/gel or controlled-release vaginal delivery system or consider a mechanical method to induce labour if pharmacological methods are not suitable or if the woman chooses this method.

For women with a Bishop score of 7 or more, offer induction of labour with amniotomy and an intravenous oxytocin infusion. [NICE 2021]

Advise women that they can have an amniotomy and can choose whether or not to have an oxytocin infusion, or can delay starting this, but that this may mean labour takes longer and there may be an increased risk of neonatal infection. [NICE 2021]

Women who receive prostaglandins for IOL will require continuous electronic fetal monitoring in labour.

Prostin® Gel

Process of Induction of Labour with Dinoprostone gel- Prostin®
(excluding women who have had a previous caesarean section)

1st Assessment

VE to determine Bishop Score (BS)

BS 5 or more and **all multiparous** administer **1mg**
BS 4 or less (**primip only)** administer **2mg**

Following administration to remain semi recumbent on bed for 40 minutes

Favourable for ARM. Also refer to section 5.8 for frequency of fetal monitoring while awaiting ARM

Inform Delivery Suite co-ordinator if suitable for ARM

Fetal heart to be auscultated and documented following VE

NB
Total maximum combined dose of Prostin ® administered

PRIMIP 4mg

MULTIP 3mg

Fetal Heart Rate Monitoring following Prostin administration		
▪ If no contractions can mobilise after 30 mins and have intermittent monitoring	▪ When regular uterine activity begins EFM to be undertaken	▪ Women advised to continue to monitor fetal movements

2nd Assessment

6 hours following Prostin:	
History of current events taken regarding ▪ Contractions ▪ fetal movements ▪ PV loss Undertake abdominal palpation & MEWS	CTG to be undertaken and show a normal fetal heart rate pattern.

Fetal heart to be auscultated and documented following VE

If the woman is contracting regularly prior to 2nd assessment and the cervix is unchanged from the 1st assessment, prostin will be given using the midwives discretion

If regular painful contractions
- VE to assess progress
- If favourable for ARM, inform Delivery Suite
- If not able to administer Prostin® to discuss with Tier 2 Obstetrician

If not experiencing regular painful contractions
- VE to reassess Bishop Score for progress.
- If not favourable for ARM, further prostin to be given **BS 5 or more**

Following PGE_2

1mg or **BS 4 or less 2mg**

to remain semi recumbent on bed 30min

3rd Assessment- if maximum dose of Prostin not yet reached

NB
Total maximum combined dose of Prostin ® administered

PRIMIP 4mg

MULTIP 3mg

6 hours from last Prostin insertion:

History of current events taken regarding ▪ Contractions ▪ fetal movements ▪ PV loss Undertake abdominal palpation & MEWS	CTG to be undertaken and show a normal fetal heart rate pattern.

If regular painful contractions
- VE to assess progress
- If favourable for ARM, inform Delivery Suite
- If not able to administer Prostin and maximum dose not yet reached to discuss with Tier 2 obstetrician

If not experiencing regular painful contractions
- VE to reassess Bishop Score
- If not favourable for ARM, further Prostin to be given if not yet reached maximum dose

Fetal heart to be auscultated and documented following VE

Not favourable for ARM or in labour and maximum dose of Prostin already given
- Tier 2 obstetrician to review and make individual management plan.

If favourable for ARM:
- Delivery suite Co-ordinator to be informed

In labour:
- Transfer to Delivery Suite

If IOL is considered unsuccessful refer to Section 5.13 for further management

Propess®

Flow Chart for use of Propess10mg slow release Pessary

Criteria met for IOL with Propess-
Primiparous women, a bishop score or 4 or less

- Propess removed from the fridge not more than 20 minutes before insertion
- Propess inserted high into the posterior vaginal fornix.
- Withdrawal tape cut as required.

The patient should be recumbent for 30 minutes after insertion.

Fetal heart to be auscultated and documented following VE

- EFM at the onset of uterine activity or
- 2 hours following insertion of the pessary, assess fetal wellbeing with an EFM.
- Women advised to continue to monitor fetal movements

If regular painful contractions or the women is requiring further analgesia, VE to assess labour or not. If in labour remove the pessary using the tape.

Further Assessment

1. Insertion
Holding the Propess® insert between the index and middle fingers of the examining hand, insert it high into the vagina towards the posterior vaginal fornix using only small amounts of water soluble lubricants.

2. Positioning
The index and middle fingers should now be twisted a quarter turn clockwise, pushing the Propess insert higher up, behind the posterior fornix and turning it through 90° so that it lies transversely in the posterior fornix.

3. After positioning
Carefully withdraw the fingers leaving the Propess® insert in the position shown in this diagram where it should remain *in situ*. After insertion ensure that the patient remains recumbent for 20-30 minutes to allow time for the Propess® insert to swell. Again, this will help it to remain in place for the duration of the treatment. Allow sufficient tape to remain outside the vagina to permit easy retrieval.

4. Removal
To stop prostaglandin E2 release, gently pull the retrieval tape and remove the Propess insert.

Cook® Cervical Ripening Balloon Catheter (CRB)

The CRB is a silicone double balloon catheter. It encourages gradual cervical dilatation by gentle and constant pressure on the cervix.
It is important to note that this process is a mechanical process to 'ripen' the cervix prior to artificial rupture of membranes (ARM).

Contraindications for CRB IOL

- Women who are having initial IOL with pharmacological methods
- Pre-labour rupture of membranes
- High presenting part
- Polyhydramnios
- Maternal medical condition, severe hypertension, heart disease.
- Placenta praevia or percreta
- Active genital herpes
- Malpresentation
- Prior hysterotomy, classic uterine incision, myomectomy

The midwife should prior to use:

- Review the antenatal notes and BadgerNet notes.
- Check the gestation dates by the dating scan and the indication for IOL
- Contact the Tier 2 or Consultant for review
- CRB by a midwife if the following is met, cephalic, 37-42 weeks gestation.

The women should be informed that the CRB works over a 12-hour period to ripen the cervix mechanically ready for labour and as such the next planned examination will not be performed until 12 hours later.
If the antenatal assessment and CTG is satisfactory (use Computerised analysis) the midwife will, with maternal consent, perform a vaginal examination. A cervical assessment including calculating the Bishop score will be undertaken.

Insertion of Cook® ripening balloon (CRB)

- Confirm gestation and EDD according to ultrasound scan
- Abdominal palpation to confirm longitudinal lie, cephalic presentation and intact membranes
- Auscultation using the pinnard/ sonic aid for 1 minute.
- Cardiotocograph (CTG) until computerised Criteria Met
- Assessment of maternal wellbeing

Insertion of balloon Also refer to Appendix 2

1. Verbal consent to the procedure
2. Perform a vaginal examination and assess favourability for ARM using Bishop Score assessment.
3. The cervical ripening balloon can be inserted digitally or using a speculum to visualise the cervix.
   - **Speculum:** Advance the catheter (with the trocar in place) through the cervix until **the second** balloon reaches the external os. Withdraw the trocar before continuing to advance the catheter until both balloons cannot be seen at the external os.
   - **If the head is very low:** removing the trocar might help with placement of the catheter using the Rampley's sponge holder to gently advance small portions at a time through the cervix until **both** balloons have passed the internal os.
   - **Digital:** Keeping fingers in the cervix, guide the catheter through the cervix until both balloons have passed the internal os.
4. Inflate the uterine balloon with 40mls of 0.9%Sodium Chloride through the **red Check**-Flo valve (marked U) using a standard 20ml luer- lock syringe.
5. Once inflated pull back until the balloon is against the internal os
6. The vaginal balloon should now be seen or felt outside the external cervical os.

Inflate the vaginal balloon with 20ml of 0.9% Sodium Chloride through the **green** Check-Flo valve (marked V). Remove the speculum

7. Once the balloons are situated on each side of the cervix, add more 0.9% Normal Saline (slowly in 20mls increments) until each balloon contains 80mls maximum.

8. Either tape catheter to leg or fold into groin area ensuring gentle tension.

Post-insertion procedure

A post procedure FH auscultation.

Removal of CRB

- **8-10 hours post insertion discuss with Delivery Suite Co-ordinator plan for removal – taking into consideration capacity. – If capacity issues identified discuss with Tier 2/Consultant for plan**
- **Remove balloon after 12 hours**. The balloon may fall out prior to this time.
- If membranes rupture spontaneously whilst the balloon is in situ the device should be removed.

  Method to remove balloon:

  1. Deflate balloon/balloons through the valves & remove catheter.
  2. Perform a VE to assess suitability for ARM. If no spontaneous rupture of membranes.
  3. ARM should be performed on Delivery Suite ward at earliest opportunity, dependent on workload.
  4. Document procedure in the relevant records.

Issues during/post use of CRB

If pre-labour rupture of membranes (PROM) occurs **after** CRB has been inserted it should be removed, observe uterine activity, and assess the fetal heart and full set of maternal observations. If there are no fetal concerns and uterine activity is insignificant, an oxytocin infusion can be commenced as soon as possible after removal of the CRB.

In the event the balloon falls out

If at any point the CRB falls out, an assessment should be performed, and then ARM and oxytocin started if there is no obvious uterine activity.

Active vaginal bleeding

Active vaginal bleeding requires an urgent Tier 2 or Consultant review, commencement of CTG and immediate removal of the CRB.

Women who are assessed as unsuitable for ARM post CRB

The Obstetrician should consider, discuss, and document any of the following options with the woman:

- ARM (if possible on examination by obstetrician),
- Rest for 24 hours,
- Use of Prostin,
- Caesarean section

Decision about further management should be in accordance with the woman's wishes and should take into account the clinical circumstances.
The Obstetrician will agree and document an individualised management plan following discussion with the woman.

Women who are assessed as suitable for ARM following CRB

1) The delivery suite induction board should be updated with the date and time that the assessment for ARM has been made. (prioritisation is carried out by the delivery suite coordinator and consultant)

2) Every effort should be made to transfer women to labour ward as soon as possible. Where a woman is waiting more than 6 hours, the situation will be escalated to the delivery suite co-ordinator. Delays in transfer for ARM are reviewed during management huddles. See section 5.8.

Artificial Rupture of the Membranes (ARM)

ARM and/or intravenous oxytocin may be needed to initiate or sustain the induction process. This can be used as a primary method if there are specific clinical reasons for not using prostaglandin either because contraindicated or not optimal (e.g. severe asthma, previous caesarean section, perceived increased risk of uterine hyperstimulation.)

Exceptions in which IV oxytocin would be used as first line are as follows:

- Women with SROM and evidence of chorioamnionitis.
- Women with SROM, with a cervix ≥3cm dilated and not contracting regularly.
- Women with Group B Streptococcus with pre-labour SROM.

ARM with high risk of cord prolapse

If amniotomy is being considered where the presenting part is ballotable/free, then a face to face Tier 3 review is indicated. The Tier 3 should remain in attendance for the duration of the amniotomy, IV access should already be sited, the theatre team and anaesthetist should be on labour ward, the coordinating midwife should be aware, and consideration should be given in regards to timing:

- Can the amniotomy be delayed, allowing for maternal gastric optimisation in case of need for general anaesthesia?
- Has the acuity on both labour ward and the CEPOD been checked to ensure that if caesarean section becomes indicated, this will not negatively impact on the ability to escalate a second emergency case to theatre. Mitigation of this risk may require- the second team to be in attendance, an elective list to be temporarily stood down, or the amniotomy to be delayed until a time the aforementioned can be achieved.

Close MDT working between the Tier 3 obstetrician, anaesthetist, coordinating midwife, and theatre team is essential.

Process of ARM – conducted on Delivery Suite only
When the cervix is sufficiently dilated to permit amniotomy the delivery suite co-ordinator is informed, and the woman is transferred when workload and staffing permit.

Women awaiting ARM will be prioritised according to individual risk assessment and clinical need. Following transfer to the delivery suite, an assessment of fetal and maternal wellbeing will be undertaken.

The engagement of the presenting part will be assessed at abdominal palpation prior to vaginal examination. If there are any concerns that the presenting part is not cephalic or that umbilical cord may be presenting, ARM should be deferred until review by an obstetrician.

An amnihook is used to rupture the membranes. The process and the contact of the baby's head on the cervix stimulates the release of prostaglandins to start labour.

Following ARM the **CTG will continue for 30 minutes** to assess fetal wellbeing. However the CTG will be continuous if oxytocin is commenced, see below.

Oxytocin to be commenced following ARM if the following applies

- Absence of uterine activity
- Absence of cervical effacement

Where there is evidence of **uterine activity AND cervical effacement** following ARM then the woman may be encouraged to mobilise to encourage spontaneous uterine contractions.

An assessment of fetal wellbeing (fetal heart rate, colour of liquor and fetal movements) will

be undertaken at least **every 30 mins.**

The need for oxytocin will be reviewed **within 2 hours** and the next **vaginal examination** will be **within 4 hours** of the onset of regular uterine activity. **Consider commencing oxytocin immediately post ARM for Primiparous and women who do not wish to wait.**

5.7 Maternal Observations

Following admission to the antenatal ward the obstetric history, EDD and the indication for induction will be checked together with any individual instructions on the MIS. The induction of labour care pathway will be completed

A full set of maternal observations/MEWS, as well as urinalysis should be completed and recorded on the MIS and uterine activity will be assessed by clinical palpation.

The admission process will include a VTE assessment. The use of anti-embolic stockings may be considered for women with two or more risk factors for VTE. Good hydration and mobilization will be encouraged. Women will not be given thromboprophylaxis with Tinzaparin routinely, because of the likelihood of labour and the potential complications with regional analgesia/anaesthesia.

During the induction process, a full set of maternal observations/MEWS, as well as an abdominal palpation, will be undertaken **four hourly** for women who remain as inpatients and documented on the MIS.

Women with other obstetric or medical complications will have their observations in accordance with the relevant guideline.

When labour is established, observations will be carried out and recorded according to guideline **Care in Labour on Consultant Unit (086)**.

5.8 Fetal Observations and wellbeing

Fetal Movements

Fetal movements will be assessed and recorded. Women will be advised to inform the midwife if they have any concerns regarding reduced fetal movements during the IOL process.

CTG assessment where the following apply

1. On admission for IOL

A normal fetal heart rate pattern must be confirmed with electronic fetal monitoring (EFM). This will be preceded by auscultation with a pinard stethoscope/handheld Doppler. CTG with computerised analysis can be used in the absence of regular uterine activity.

2. Uterine contractions

If, following induction a woman experiences regular uterine contractions, fetal wellbeing will be assessed with continuous EFM for a minimum of 20 minutes. **Computerised CTG analysis monitoring will not be used**. If the EFM assessment is normal, intermittent auscultation can then be used unless there are indications for the use of EFM (NICE 2014) refer to EFM guideline.

3. Awaiting Transfer

Where a delay of **more than 6 hours prior (this is reviewed during Management huddles)** to transfer to Delivery Suite for an ARM, EFM will be completed as a **minimum 4 hourly** or more often where clinical situation requires.
Where a woman has been waiting over 6 hours to transfer for ARM, a datix will be submitted.

Women who's membranes rupture during the IOL process (not ARM) will be

escalated immediately to the coordinator and transferred to delivery suite at the earliest opportunity. Maternal observations and a CTG should be completed **four hourly** whilst awaiting the next stage of the induction pathway. The coordinator will be reinformed at 6 hours if the woman is still awaiting transfer/is on the consultant led unit but has not yet commenced oxytocin.
Where there has been a delay of 6 hours for transfer, a Datix will need to be submitted as this is considered a Maternity Red Flag.

Auscultation

1. Following any vaginal examination

The fetal heart rate will be auscultated and documented.

Women who are induced for specific obstetric, maternal or fetal indications, women who received Prostaglandins and/or those who require oxytocin for induction of labour will have continuous EFM when labour is established. If the fetal heart rate pattern is abnormal refer to Electronic Fetal Monitoring guideline (040).

5.9 Pain relief

Pain relief options will be discussed, including a woman's own coping strategies.

During the IOL process women will be prescribed analgesia and an antiemetic. Midwives will ensure that women are offered pain relief on the antenatal ward. If the prescribed analgesia is inadequate, Pethidine is available to be given under midwives exemption.

A documented review including vaginal examination will be considered prior to administration of pethidine

5.10 Complications of IOL – uterine hyperstimulation

This is overactivity of the uterus as a result of induction of labour. It is variously defined as uterine tachysystole (more than 5 contractions per 10 minutes for at least 20 minutes) and uterine hypersystole/hypertonicity (a contraction lasting at least 2 minutes). These may or may not be associated with changes in the fetal heart rate pattern (persistent decelerations, tachycardia or increased/decreased short term variability).

Management of hyperstimulation

- commence CTG immediately
- Summon help
- If Propess ® in situ remove
- Administer tocolysis – terbutaline 250 micrograms subcutaneous injection
- Review by Tier 2
- Transfer to delivery suite if CTG shows features that are non-reassuring or abnormal or if the hyperstimulation continues.

5.11 Documentation and Communication

Book the woman in for IOL electronically by entering the date of induction.
• If the date of IOL changes then a new booking form must be completed (this will automatically cancel any previous inductions which have been booked)
• Confirm that the induction has been booked by accessing the electronic diary
• Ensure that this is published to the woman's BadgerNet
• Complete "Induction of Labour Booking" on MIS. See Appendix 1b.

Assessments and actions taken during the IOL process will be documented on the 'Induction' tab on BadgerNet. Once in labour or oxytocin commenced, documentation will be continued on the 'Labour and Birth' tab.

Ongoing care will be discussed with the woman and her family to ensure good communication.

5.12 Individual management plan when induction of labour declined

When a woman declines induction of labour, either for prevention of prolonged pregnancy or for another clinical reason, she will be referred for review by a consultant or Tier 2 obstetrician and offered an individual management plan to include tests of fetal wellbeing. These will include at least an ultrasound estimation of liquor volume and **alternate day EFM** until the onset of labour.

5.13 When Induction is unsuccessful

Induction of labour is considered unsuccessful when labour does not establish and amniotomy is not feasible after one cycle of Propess® pessary, or after the maximum dose of Prostin® gel has been given, or if the cervix is still unfavourable after removal of the Cook's balloon catheter.

If induction is unsuccessful, a supportive discussion between the consultant/Tier 2 and the woman/family is indicated.

Fully reassess the woman's condition and the pregnancy in general and assess fetal wellbeing via CTG.

Following this discussion, agree a plan for further management with the woman, including whether she would like further attempts at induction (see below), taking into account the clinical circumstances and **her preferences**.

Subsequent management options include:

- offering a rest period if clinically appropriate and then re-assessing the woman
- expectant management with maternal and fetal monitoring
- further attempts to induce labour**.**
    - Further doses of Dinoprostone gel (If initial IOL attempt was with gel, then a period of 24 hours between courses is required & if Dinoprostone pessary was used for the initial attempt, gel can be used immediately following review and prescription by Tier 2/consultant – provided the woman is not experiencing uterine activity.)
    - Cooks Ripening Balloon
    - ARM + oxytocin with bishop score <7 (See method 3 for ARM with high risk of cord prolapse/high presenting part)
- caesarean birth.

An individual management plan will be documented in the MIS as well as the discussions had (including: risks, benefits, alternatives, preferences and informed decision outcome) .

6 Training

All new Midwives, students and Medical Staff will be informed about the process for accessing guidelines, protocols, and policies during their Induction.

7 Monitoring/audit

Compliance with this guideline / SOP will be audited as part of the Shrewsbury and Telford Hospital NHS Trust's five-year rolling programme of NICE and local guideline audits, unless circumstances require an earlier or more frequent audit. The audit will be carried out against the auditable standards and the results of the audit will be reported and acted on in accordance with the Trust Clinical Audit Policy (CG25).

8 References

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NICE (2021) NG207 Inducing Labour. National Institute for Health and Clinical Excellence, London.

RCOG Green-top guideline No.43 https://pubmed.ncbi.nlm.nih.gov/30773280/

NICE (2008a) Induction of labour. National Institute for Health and Clinical Excellence, London.

NICE (2008b) Induction of labour. Understanding NICE guidance. Information for people who use NHS services. National Institute for Health and Clinical Excellence, London.

Obstetric Guidelines 2015-2017, (2015) The Bedside clinical guidelines partnership in association with the Staffordshire, Shropshire & Black Country Newborn and Maternity Network

Midlands Induction of Labour (IoL) Framework : Version 2 22/10/2024

NICE multiple pregnancy guideline QS46 (2019)

RCOG Green-top guideline No.52

Saving Babies Lives Care Bundle v2

RCOG Green-top guideline No.33

Cook Medical – Cervical ripening balloon Product information

Acknowledgement: With thanks to Western Sussex NHS Trust for the use of their IOL guideline from which the CRB information / appendices has been reproduced.

Reddy U, Chia-Wen K and Williger M. Maternal age and the risk of stillbirth throughout pregnancy in the United States. American Journal of Obstetrics and Gynaecology 2006;195:764–70. (m J Obstet Gynecol. 2006 Sep;195(3):764-70. doi: 10.1016/j.ajog.2006.06.019.)

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Diederen M, Gommers JSM, Wilkinson C, Turnbull D, Mol BWJ. Safety of the balloon catheter for cervical ripening in outpatient care: complications during the period from insertion to expulsion of a balloon catheter in the process of labour induction: a systematic review. BJOG. 2018. https://doi.org/10.1111/1471-0528.15047.

Appendix 1a Indications for IOL

1. Prevention of Prolonged Pregnancy

Discuss and offer IOL from 41+0, explaining that it may reduce the risks associated with prolonged pregnancy. The risks of prolonging pregnancy past 41+0 include:

- An increased likelihood of caesarean birth
- Increased likelihood of the baby needing admission to neonatal intensive care unit
- Increased likelihood of stillbirth and neonatal death.

The process of IOL should be discussed, with use of the supporting video (available on the SaTH website) to support women to make a decision. If the woman declines the IOL at 41+0, the decision should be reviewed at each contact. If the woman choses to continue the pregnancy past 42+0, she should be referred as early as possible for obstetric review (prior to 42+0), and additional monitoring considered, which may include CTG and ultrasound scan for liquor volume.

NICE IOL guideline NG 207 (2021) advised that women with uncomplicated pregnancies (low risk) are offered IOL at 41+0 to avoid the risk of prolonged pregnancy. The exact timing will consider the woman's preference and local circumstances.

2. Prelabour Rupture of Membranes at Term (PROM)

As per PROM- Prelabour Rupture of Membranes at Term guideline.

3. Preterm Prelabour Rupture of membranes (PPROM)

As per PPROM- Preterm Prelabour Rupture of Membranes guideline.

4. Multiple pregnancy

As per Twin & Triplet Pregnancy guideline.

5. Maternal Age

Women who are ≥40 years of age will be offered IOL from 39+0 - 39+6 weeks. An **IOL appointment can be made by the community midwife** for those women on the low risk care pathway. **If the woman declines this offer, please refer them to a consultant antenatal clinic.**

6. Obstetric Complications

Induction of labour is advised for a number of obstetric complications because of risks to the mother and/or the fetus if the pregnancy continues. The timing of IOL will depend on individual circumstances.

a) Hypertensive disorders of pregnancy

As per Hypertensive Disorders guideline.

b) Diabetes in Pregnancy

As per Pre-existing and Gestational Diabetes guideline.

c) Obstetric Cholestasis

As per Intrahepatic Cholestasis of Pregnancy guideline.

d) Fetal Growth Restriction/ Sub-optimal Fetal Growth

As per Small for Gestational Age and Fetal Growth Restriction guideline.

e) Reduced Fetal Movements

As per Reduced Fetal Movements guideline.

f) Macrosomia : As per Management of Suspected Fetal macrosomia guideline.

7. Other Maternal or Fetal Indications

Induction of labour at term may be considered when there is concern regarding maternal or fetal wellbeing for other reasons. These include pre-existing and gestational hypertension, medical conditions and symphysis pubis dysfunction. Please discuss all cases with a consultant.

8. Previous Caesarean Section

As per BAC- Birth after Caesarean Section guideline.

9. Intrauterine Death

As per Fetal loss and early neonatal death guideline.

10. Breech Presentation

As per Breech Presentation guideline.

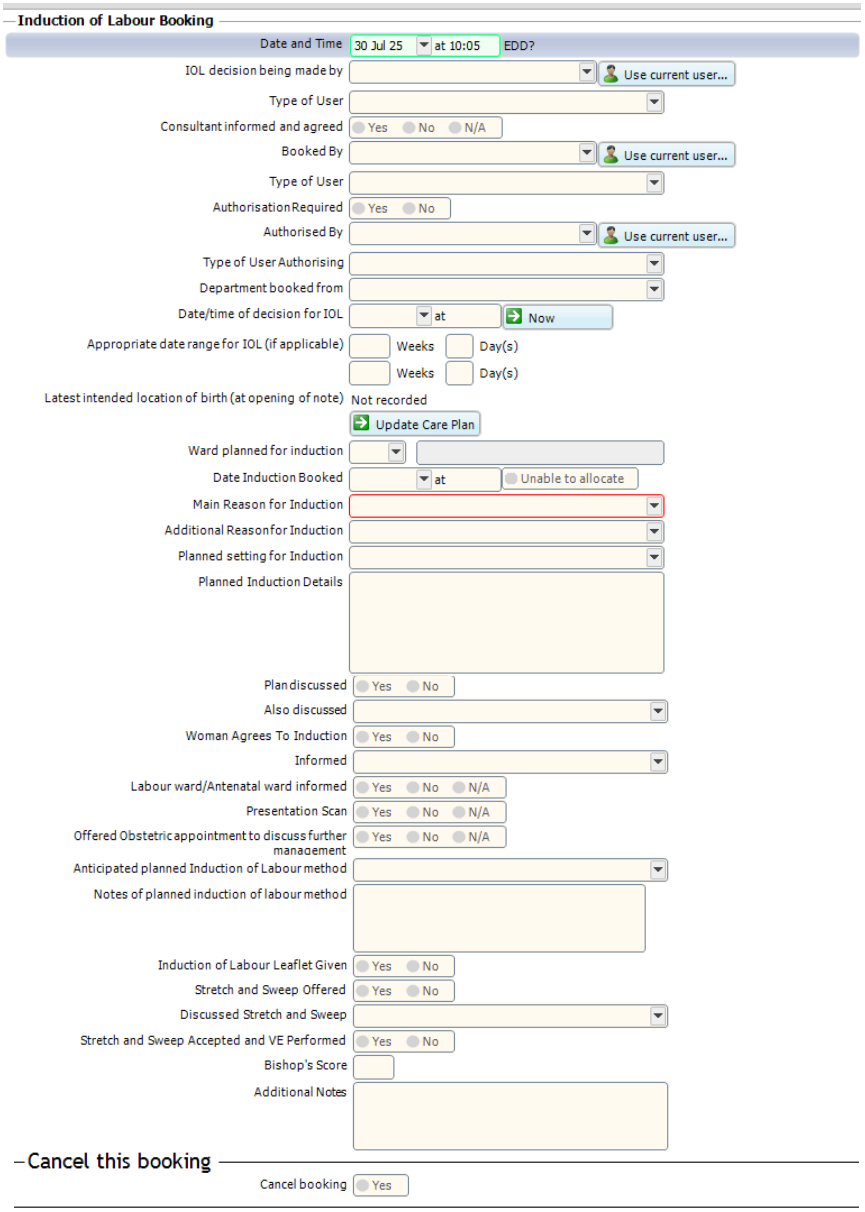
11. IVF only:

Women who have IVF(only) should be given Individualised care plans

12. Maternal Request for induction of labour

IOL without an obstetric indication should be reviewed by a consultant and plan agreed

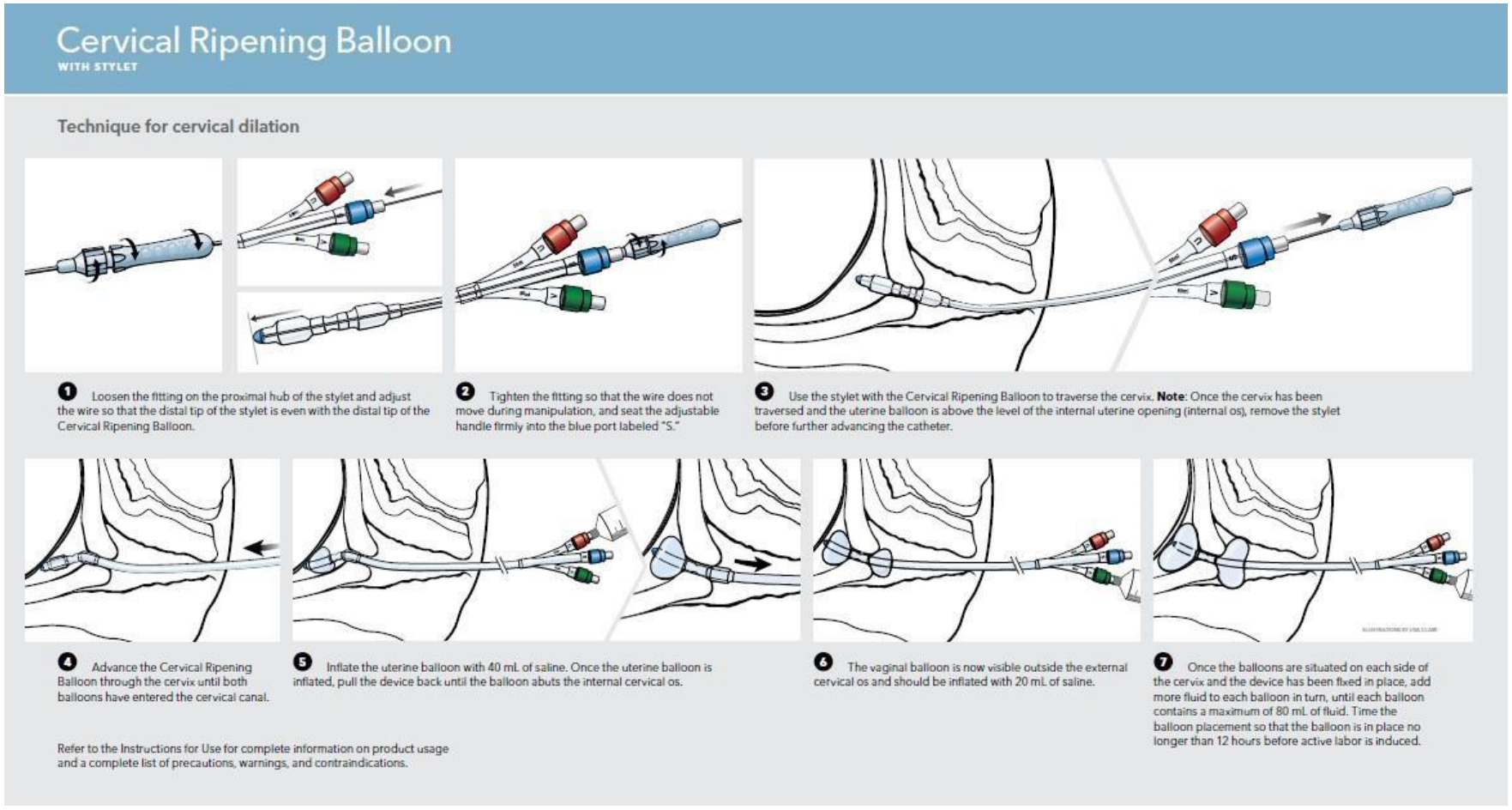
Appendix 1b – IOL Booking on MIS.



Appendix 2
Cook's ripening balloon (CRB)

Step	Details
Prepare Trolley	Clean trolley VE/ catheter pack Cusco's Speculum 2 pairs of Sterile Gloves Lubricating Gel Normal saline 0.9% 500ml bag Blue plastic tray 50ml Luer lock syringe Cooks Balloon Catheter (do not open catheter until assessment complete and catheter required) Pads
Prepare woman	Discuss procedure Gain Consent Advise to empty bladder/ urine sample Maternal observations and Risk assessment CTG using Computerised CTG analysis
Insertion of balloon Catheter	• Ensure the trolley is prepared and ready for use • Place woman's legs in lithotomy if required (ensure modesty sheet in place) • Use sterile gloves • Clean vaginal entrance • Perform vaginal examination using Bishop's score assessment • Keeping fingers in the cervix guide the catheter through the cervix until both balloons have passed the internal Os **see Image 1 OR** insert a cusco's speculum, identify the cervical os and under direct vision insert the balloon catheter through the cervix until both balloons have passed through the cervix • Once the uterine balloon is above the level of the internal Os the midwife stabilises the catheter while the assistant removes the stylet before continuing with the procedure. • Draw up 20mls of 0.9% Normal saline in each of the syringes (2) place in plastic tray (prepare prior to procedure) • Inflate the uterine balloon (marked U) red check flo valve, slowly with 40mls of 0.9% saline. • Once the uterine balloon is inflated pull back until the balloon is against the internal OS • The vaginal balloon should now be felt or seen outside the external cervical Os • Assistant to inflate the vaginal balloon with 20mls of 0.9% normal saline through the green check flo valve (marked V) • Once the balloons have been situated on each side of the cervix add more 0.9% normal saline slowly in 20ml increments until each balloon contains 80 mls maximum. • Use IOL pathway on BadgerNet to document quantity in each balloon • Remove legs from lithotomy • Tape catheter to the leg and Offer sanitary pad • FH auscultation post insertion
Prepare woman for the next 12 hours	Give advice Document procedure

Image 1


Cervical Ripening Balloon
WITH STYLET
Technique for cervical dilation
1 Loosen the fitting on the proximal hub of the stylet and adjust the wire so that the distal tip of the stylet is even with the distal tip of the Cervical Ripening Balloon.
2 Tighten the fitting so that the wire does not move during manipulation, and seat the adjustable handle firmly into the blue port labeled "S."
3 Use the stylet with the Cervical Ripening Balloon to traverse the cervix. Note: Once the cervix has been traversed and the uterine balloon is above the level of the internal uterine opening (internal os), remove the stylet before further advancing the catheter.
4 Advance the Cervical Ripening Balloon through the cervix until both balloons have entered the cervical canal.
5 Inflate the uterine balloon with 40 mL of saline. Once the uterine balloon is inflated, pull the device back until the balloon abuts the internal cervical os.
6 The vaginal balloon is now visible outside the external cervical os and should be inflated with 20 mL of saline.
7 Once the balloons are situated on each side of the cervix and the device has been fixed in place, add more fluid to each balloon in turn, until each balloon contains a maximum of 80 mL of fluid. Time the balloon placement so that the balloon is in place no longer than 12 hours before active labor is induced.
Refer to the Instructions for Use for complete information on product usage and a complete list of precautions, warnings, and contraindications.

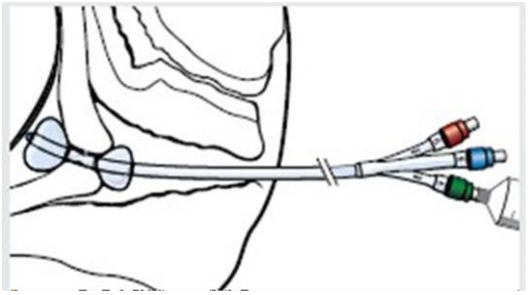
Appendix 3

Cook ® CRB Removal and Management on Delivery Suite

CRB inserted
Antenatal midwife to confirm with Delivery Suite co-ordinator **12 hour review** to take place on delivery suite

At 12 hours post insertion
1. Empty bladder
2. Abdominal palpation
3. Commence CTG

1. Remove saline from the valve marked V (green)
2. Remove saline from valve marked U (Red)
NB up to maximum of 80mls are in each balloon



3. Remove catheter

Perform VE to assess suitability of ARM

ARM not possible (e.g. high head) or unfavourable

Consider mobilising **for 1 hour** if high head then reassess

If unfavourable for ARM Tier 2 or consultant to discuss options

- Rest for 24 hours,
- Use of Prostin,
- Caesarean section

ARM Possible

→ Perform ARM – Refer to **Method 3 within IOL guideline**
→ **Document**