Guideline for Induction of Labour using

Cervical ripening balloon, Propess, Dinoprostone (Prostin) and Oxytocin

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1.0 Introduction

This guideline is fully compliant with the National Institute for Health and Care Excellence (NICE) Inducing Labour guideline 2021.

https://www.nice.org.uk/guidance/ng207/resources/inducing-labour-pdf-66143719773637
This document will provide guidance for all staff caring for women who undergo induction of labour (IOL) as either an inpatient or as an outpatient, using one or a combination of:

- Cervical ripening balloon (CRB)
- Propess (Dinoprostone)
- Prostin

2.0 Objective

Induction of labour (IOL) is a process designed to artificially initiate uterine contractions leading to progressive effacement and dilatation of the cervix.

Induced labour has an impact on the birth experience for the woman. Epidural analgesia and assisted delivery are more likely. When pharmacological methods are used to induce labour irrespective of whether non-pharmacological induction is also attempted, less than two thirds of women deliver without intervention.

3.0 Scope

This guideline applies to all medical and midwifery staff working on the maternity unit.

4.0 Discussion of Induction of Labour

Treatment and care will consider a woman's individual needs and preferences. Discussions regarding mode of birth with women early on in their pregnancy should consider their individual circumstances and the options discussion should be recorded in the electronic patient record (EPR). This can include:

- Expectant management
- Induction of labour
- Planned caesarean birth

The woman's preferences for birth should be confirmed towards the end of pregnancy as these may have changed since earlier discussions.

The woman will be given the opportunity to make an informed decision regarding induction of labour in partnership with healthcare professionals. The woman will be offered information on induction of labour at her 38 week antenatal visit and this is to be recorded within the maternity EPR (Electronic Patient Record). The IOL leaflet is available for all women on the trust website. A discussion regarding the woman's expectation of the IOL process must 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 and pain relief options can include simple analgesia, pool, bath or an epidural depending on the stage of labour, see intrapartum guidelines for more information.
- Their hospital stay may be longer than with a spontaneous labour
- The risks associated with prolonging a pregnancy beyond 42 weeks gestation
- The reasons for induction and methods of induction available
- The process for a failed induction
- Possibility of delay to the start of induction (NICE, 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 (see also recommendations on 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 recommendations 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 deciding
- 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
- 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 that is given. Record the woman's decision in her notes.

Explain to women that some risks associated with a pregnancy continuing beyond 41+0 weeks may increase over time and these include increased likelihood of:

- Caesarean birth
- The baby needing admission to a neonatal intensive care unit
- Stillbirth and neonatal death. (NICE,2021)

Discuss with women that induction of labour from 41+0 weeks may reduce these risks, but that they will also need to consider the impact of induction on their birth experience when making their decision.

Be aware that, according to the 2020 MBRRACE-UK report on perinatal mortality, women from some minority ethnic backgrounds or who live in deprived areas have an increased risk of stillbirth and may benefit from closer monitoring and additional support. The report showed that across all births (not just those induced):

- Compared with white babies where the stillbirth rate is 34/10,000
  - Stillbirth is more than twice as high in black babies at 74/10,000
  - And around 50% higher in Asian babies at 53/10,000
- The stillbirth rate also increases according to the level of deprivation in the area where the mother lives, with almost twice as many stillbirths for women living in the most deprived areas (47/10,000) compared with the least deprived areas (26/10,000) (NICE, 2021).

5.0 Induction of labour in certain circumstances

The exact timing of the process will depend upon clinical circumstances and the woman's preference. For induction of labour following an intrauterine death, please refer to the stillbirth guideline.

Induction of labour is not generally recommended if a woman's baby is in a breech position. Consider induction of labour for babies in the breech position if:

- Birth needs to be expedited, and
- External cephalic version is unsuccessful, declined or contraindicated, and
- The woman chooses not to have a planned caesarean birth.

Discuss the benefits and risks associated with induction of labour with the woman (NICE,2021).

Table One - Decision Aid			
Reason	**Background**	**Decision made by**	**Further information**
Prolonged Pregnancy low risk	Women with uncomplicated pregnancies will be offered IOL between 41+0 and 42+0 weeks gestation.	Community Midwife (CMW)	Give women with uncomplicated pregnancies every opportunity to go into spontaneous labour. Explain to women that labour usually starts naturally before 42+0 weeks, based on the gestational age estimated by their dating scan NICE 2022 1.2.**2** **41+0 to 41+6 weeks** Proportion of spontaneous labours that started at this gestation age - 16.2% Cumulative proportion of spontaneous labours that started by this gestation age -99.0% **42+0 weeks and over**

			Proportion of spontaneous labours that started at this gestation age – 0.9% Cumulative proportion of spontaneous labours that started by this gestation age -100% **Please direct women to read** Appendix A: Risks associated with different induction of labour timing strategies | Tools and resources | Inducing labour | Guidance | NICE discuss and document the risks and benefits of the decision made. There was evidence that caesarean birth, perinatal mortality and neonatal intensive care unit admission are reduced by earlier induction of labour (at 41+0 weeks) compared to later induction (at 42+0 weeks or after). However, there was not enough evidence, so NICE 2022 made a recommendation for research to identify the optimal timing of induction more precisely. CMW to discuss as outlined in section 4.0 and then if the woman agrees, the CMW should contact birthing centre staff who will allocate the woman a date and time for induction. If a woman chooses not to have induction of labour, discuss the woman's options from this point on with her (for example, expectant management or caesarean birth) and record the woman's decision in her notes (NICE,2021).
High risk pregnancy	Where risk factors are identified, the timing of the induction will be based on the individual risk factors of that woman	SpR/ Consultant	Obstetrician to discuss as outlined in section 4.0, and then if the woman agrees to induction of labour, to contact birthing centre staff who will allocate the woman a date and time for induction
Maternal age at time of delivery	Women who are ≥ 40 years of age at the time of delivery will be offered induction of labour at 39-40 weeks gestation	Healthcare Professional	Healthcare professional to discuss as outlined in section 4.0 and then if the woman agrees to induction of labour, to contact birthing centre staff who will allocate the woman a date and time for induction
High free head at 40 weeks in a nulliparous woman	Nulliparous women with a high free head at ≥ 40 weeks will require a medical review to exclude pathology prior to induction of labour. Women seen in a community	CMW/ Registrar/ Consultant	CMW should refer the woman to the Antenatal day unit the same day for assessment by their obstetric team. If the woman is midwifery led care we advise transfer to shared care

	setting will be referred to the ANDU for assessment by their obstetric team		
Pre-Labour Rupture of membranes	Women with pre-labour rupture of membranes at term (≥37 weeks) can be offered expectant management; IOL using Dinoprostone; or oxytocin augmentation	Registrar/ Consultant	Please refer to pre-labour rupture of membranes guideline and https://www.nice.org.uk/guidance/ng207/resources/inducing-labour-pdf-66143719773637 Section 1.2.13 Offer expectant management for up to 24 hours, or induction of labour as soon as possible. Discuss the benefits and risks of these options with the woman, and consider her individual circumstances and preferences. For women who choose expectant management after prelabour rupture of the membranes at term (at or over 37+0 weeks), offer induction of labour if labour has not started naturally after approximately 24 hours. Respect the woman's decision if she chooses to wait for spontaneous onset of labour for over 24 hours after prelabour rupture of membranes at term. Discuss the woman's options for birth from this point onwards with her. If a woman has prelabour rupture of membranes at term (at or over 37+0 weeks) and has had a positive group B streptococcus test at any time in their current pregnancy, offer immediate induction of labour or caesarean birth. (NICE, 2021)
Previous caesarean Section	Following risk assessment, women who have had a previous caesarean section may be offered IOL with CRB. Any risk assessment must consider alternative methods such as vaginal Dinoprostone, (including duration of Dinoprostone based on the consultant plan 12-24hours); expectant management and caesarean section.	Registrar/ Consultant	The risk assessment must review the woman's history including previous caesarean section details and take into her consideration her wishes. The plan must be clearly documented. Advise women who have had a previous caesarean birth that: • induction of labour could lead to an increased risk of emergency caesarean birth • induction of labour could lead to an increased risk of uterine rupture • the methods used for induction of labour will be guided by the need to reduce these risks (for example, by using mechanical methods). See the recommendations on Methods for inducing labour • some methods used for induction of labour may not be suitable (for example, both Dinoprostone and misoprostol are contraindicated in women with a uterine scar). If birth needs to be expedited, offer women who have had a previous caesarean birth a choice of: • induction of labour, or • planned caesarean birth.

	Advise women that they can choose not to have induction of labour or caesarean birth, even when it may benefit their or their baby's health (NICE,2021).		Consider the woman's circumstances and preferences and record the discussions and plan in the woman's notes (NICE, 2021) For more information see https://www.nice.org.uk/guidance/ng207/resources/inducing-labour-pdf-66143719773637 section 1.2.17
Fetal Growth Restriction / Reduced fetal movements	Please refer to the fetal growth restriction/ reduced fetal movement guideline for more details.	Registrar/ Consultant	The risk assessment must encompass the woman's circumstances and wishes, and the plan must be clearly documented NICE section 1.2.23 Do not induce labour if there is fetal growth restriction with **confirmed** fetal compromise (not just reduced fetal movements). Offer caesarean birth instead. New 2021
Maternal Diabetes	Please refer to the Diabetes guideline for management	Registrar/ Consultant	The method of induction will be decided on an individual basis dependent upon the clinical picture and the woman's wishes. Using the information in appendix B, discuss with women without diabetes and with suspected fetal macrosomia that: • the options for birth are expectant management, induction of labour or caesarean birth (see the NICE guideline on caesarean birth) • there is uncertainty about the benefits and risks of induction of labour compared to expectant management, but: - with induction of labour the risk of shoulder dystocia is reduced compared with expectant management - with induction of labour the risk of third- or fourth-degree perineal tears is increased compared with expectant management - there is evidence that the risk of perinatal death, brachial plexus injuries in the baby, or the need for emergency caesarean birth is the same between the two options • they will also need to consider the impact of induction on their birth experience and on their baby (see recommendation 1.1.3). Discuss the options for birth with the woman, taking into account her individual circumstances and her preferences, and respect her decision. Support recruitment into clinical trials, if available. https://www.nice.org.uk/guidance/ng207/resources/inducing-labour-pdf-66143719773637 Section 1.2.24
History of precipitate labour		Registrar/ Consultant	Do not routinely offer induction of labour to women with a history of precipitate labour to avoid a birth unattended by healthcare professionals.

NB particulate liquor alone is not an indicator for induction, please consider the whole clinical picture and the woman's wishes.

6.0 Documenting the plan

When a discussion has been had with the woman this **must** be clearly documented along with the jointly agreed plan for the IOL process. Documentation **must** always include:

- Indication for induction
- Inpatient or outpatient pathway
- Method of induction: CRB, Propess, Prostin (and how long for)
- Individual plans for further management if the CRB fails
- Significant medical/obstetric history

7.0 Process for dealing with maternal requests for induction of labour

Maternal requests for IOL must be discussed with a senior obstetrician. The woman's wishes and reasons for requesting an induction must be explored, discussing the benefits and risks with the woman, considering the woman's circumstances and preferences. See flow chart for booking the IOL; Appendix 1 Arranging the IOL flow chart pg**Error! Bookmark not defined.**

8.0 Methods of IOL

Explain to women that a vaginal examination to assess the readiness of the cervix (recorded as the Bishop score) will help to decide which method of induction they will be offered first, and obtain consent to carry this out (NICE,2021).

The methods we offered at Barnsley are

1. **CRB**, this is the default method and women should be offered as an outpatient if suitable
2. **Dinoprostone (Propess)** second line can be offered as an outpatient if suitable
3. **Prostin** is the first line if ruptured membranes or if suitable to be administered following Dinoprostone. It is not suitable to be offered as an outpatient induction due to the risk of hyperstimulation

Discuss with women the risks and benefits of different methods to induce labour. Include that:

- Both Dinoprostone and misoprostol can cause hyperstimulation
- When using pharmacological methods of induction, uterine activity and fetal condition must be monitored regularly
- If hyperstimulation does occur, the induction treatment will be stopped by giving no further medication, or by removal of vaginally administered products when possible
    - There are differences in the ease with which different vaginal products can be removed for example, Dinoprostone controlled-release vaginal delivery systems can be more easily removed than gel or vaginal tablets
- Hyperstimulation can be treated with tocolysis
- Mechanical methods are less likely to cause hyperstimulation than pharmacological methods.

Consider outpatient induction of labour with vaginal Dinoprostone preparations or mechanical methods in women who wish to return home, and who have no co-existing medical conditions or obstetric complications. Discuss with the woman the benefits and risks of returning home, and respect her decision.

For management flowcharts see;

9.0 Membrane Sweep prior to any IOL

A membrane sweep is a vaginal examination that involves the clinician making circular, sweeping motions to separate the membranes from the cervix. A membrane sweep can be offered to all women at antenatal visits from 39 weeks (NICE, 2021).

Check that there is no evidence of a low-lying placenta on previous scans before performing a membrane sweep and inducing labour (NICE, 2021).

Membrane sweeping might make it more likely that labour will start without the need for additional pharmacological or mechanical methods of induction. Pain, discomfort and vaginal bleeding are possible from the procedure (NICE, 2021).

9.1 Assessing the Cervix by the Bishop Score

The Bishop score is used to assess the most appropriate method of induction for the woman.
During vaginal examination, each of the criteria listed below are assessed and given a score. The total score from all the sections gives the Bishop Score.

Table Two: Bishop Score

CERVICAL STATE SCORE	0	1	2	3
POSITION OF CERVIX	Posterior	Middle	Anterior	n/a
CONSISTENCY	Firm	Medium	Soft	n/a
LENGTH OF CERVIX	3cm	1 – 2cm	0 – 1	n/a
DILATATION	Closed	1 – 2cm	3 – 4cm	5 + cm
STATION OF VERTEX	-3	-2	-1 / 0	+1 / +2

Score 0-6: Suitable for balloon induction
If this is contraindicated then for Propess
Score 6 and above: Suitable for ARM (Artificial Rupture of Membranes or Amniotomy)

10.0 Where induction of labour will be performed

Induction of labour will take place on either the antenatal day unit (ANDU), maternity assessment unit (MAU) or Antenatal/Postnatal ward (ANPN), depending on the time of day and day of the week. Women who have been under midwifery led care prior to IOL should be transferred to consultant care with their consent.

Table Three		
Inpatient/Outpatient	**When**	**Where**
Outpatient	Mon-Fri 8am-5pm	Appropriate clinical area
Outpatient	Sat-Sun (and bank holidays)	
Inpatient	Mon-Fri 24 hours	
Inpatient	Sat-Sun (and bank holidays)	

For the management flow chart see Appendix 1 Arranging the IOL flow chart pg**Error! Bookmark not defined.**

10.1 Outpatient IOL

For induction being undertaken on an outpatient basis, agree a review plan with the woman before she returns home.

Ask women to contact their midwife, maternity unit or obstetrician:

- When contractions begin
- If there are no contractions in an agreed timeframe, depending on the method used
- If her membranes rupture
- If she develops bleeding
- If she has any other concerns, such as reduced or altered fetal movements, excessive pain or uterine contractions, side-effects or loss of the pessary.

11.1 Induction of Labour with Cervical Ripening Balloon

This should be the default method of induction of labour, it involves a catheter being passed through the cervix from the vagina to the uterus with the aim of causing the cervix to dilate and induce labour.

Ensure women and families are provided with up to date, accurate information regarding their choices and are involved in the decision making regarding their care.
The procedure must be carried out by an appropriately trained healthcare professional. If the midwife cannot insert the balloon, he/she will contact the on call SpR to perform the procedure.

Contraindications to a CRB

- Any contraindication to vaginal birth
- Malpresentation
- High free fetal head

- Spontaneous rupture of membranes
- Evidence of sepsis, chorioamnionitis
- Maternal genital tract infection
- Previously known low lying placenta < 4cm from the internal Os

NB: This list if not exhaustive. Women with complex medical or obstetric conditions may need prostaglandins to induce labour.

11.2 Contraindications to outpatient IOL with CRB

The following criteria are contraindications to outpatient IOL with CRB. However, for these women, the procedure may be carried out as an inpatient:

- Intrauterine Growth Restriction (IUGR) - reduced growth velocity/static growth
- Small for Gestational Age (SGA) <10th centile with or without abnormal dopplers
- Reduced liquor volume Amniotic Fluid Index (AFI) < 10
- Polyhydramnios AFI > 25
- High head
- Para 4 or more
- Previous history of precipitate labour
- Diabetic on insulin
- Pre-eclampsia
- Uncontrolled PIH/abnormal bloods
- BMI ≥50
- Current complaint of reduced fetal movements
- Woman with safeguarding/complex social circumstances

11.3 Process for the insertion of CRB

Ensure the woman understands the procedure, risks of failure and length of time the process can take depending on what methods of induction are required. Obtain verbal consent for the procedure.

Maternal and fetal wellbeing will be assessed prior to insertion of the cervical ripening balloon:

- Maternal observations must be performed and documented and a MOEWS score calculated
- Abdominal palpation must be performed
- Perform a presentation scan
- Assess for any vaginal loss

Perform a Dawes Redman cCTG (if no uterine activity) or CTG (if uterine activity) after auscultating the fetal heart rate with a Pinnard or handheld Doppler. CRB should be inserted within two hours of a normal Dawes Redman cCTG/CTG. If insertion is delayed beyond this time, please repeat cCTG/CTG before the CRB is inserted.

Defer insertion of the cervical balloon and request an obstetric review if there are any concerns following the assessment.

Prior to inserting the CRB, perform a vaginal examination to assess the Bishop score and if possible perform a membrane sweep.

If the Bishop score is <6 the cervical balloon will be inserted and the outpatient or inpatient pathway followed. After insertion, auscultate the fetal heart with a pinnard or handheld doppler for at least 1 minute. For management pathway see Appendix 3 CRB flow chart pg**Error! Bookmark not defined.**

If the Bishop score is ≥6 and the woman is favourable for artificial rupture of membranes (ARM), do not insert the CRB. Contact the birthing centre co-ordinator and arrange transfer to the birthing centre. This will be dependent upon acuity and activity at the time, as well as the number of women already awaiting induction.

If transfer is not imminent the woman may either return home to await a call from the birthing centre (outpatient pathway) or will be admitted to the ANPN ward until a space is available (inpatient pathway).

11.4 Outpatient management of women with CRB in situ

If no concerns arise following the insertion of the CRB, the woman will be discharged home with contact numbers, a time to return to the unit the following day and the information leaflet: https://www.barnsleyhospital.nhs.uk/uploads/2019/07/BHNFTPL0227-Introduction-of-Labour-July-19-DL-2up.pdf

The woman will be advised to:

- Continue with normal activities of daily living
- Eat and drink as normal
- Take care when wiping after going to the toilet or after washing to minimise the risk of dislodging the balloon
- Wash hands after going to the toilet and keep the catheter clean
- Avoid sexual intercourse
- Contact MAU if she experiences any of the concerns listed in table five or if the balloon falls out

11.5 Process for removal of CRB after 24 hours

After the CRB has been in place for 24 hours, the woman should be re-assessed. See Table Three, above for where this should take place.

Both maternal and fetal wellbeing must be assessed:

- Maternal observations must be performed and a MOEWs score calculated and documented on a MOEWS chart
- Abdominal palpation must be performed
- Assess for any vaginal loss and uterine activity
- Perform a Dawes Redman cCTG (if no uterine activity) or CTG (if uterine activity) after auscultating the fetal heart rate with a Pinnard or hand-held Doppler.

Remove the CRB and perform a vaginal examination to assess the Bishop score.
Leave CTG on while removing the CRB and for ten minutes afterwards.
If the Bishop score is ≥ 6 and so the woman is favourable for ARM:

- Contact the birthing centre co-ordinator and arrange transfer
- If transfer is not imminent the woman may either return home to await a call from MAU or be admitted to/stay on the ANPN ward until a space is available

Women at home should be advised to contact MAU If they wish to discuss their plan of care, or if they experience any of the following:

- Regular contractions indicative of labour
- Vaginal bleeding
- Constant abdominal pain
- SROM
- Feeling feverish or generally unwell
- Concerns regarding their baby's movements

For women on the ward, assess maternal wellbeing and perform a full set of observations and calculate a MOEWs score 4 hourly. Some women may need more regular monitoring e.g. If they have uncontrolled BP. These women must have a clear plan for monitoring written by Registrar/Consultant.

If the woman is not suitable for ARM and remains low risk, a discussion should take place between the woman and SPR or consultant. If the woman wishes, Propess can be inserted for 24 hours.

This can be managed as an outpatient as per Flowchart 3

Appendix 4 IOL with Propess flow chart **Error! Bookmark not defined.**

If the woman is term plus 12 or less. The place of insertion and follow up care will be dependent on the day of the week and time of her presentation.
If the woman is not suitable for ARM and she has a high-risk pregnancy, Propess insertion will be offered for 24 hours as an inpatient on the ANPN ward.

11.6 Inpatient management of women with CRB in situ

See Table Four for maternal and fetal observations during inpatient induction of labour:

Table Four: Maternal and Fetal Observations	
Maternal Observations	Frequency (if awake)
Undertake a full set of observations and calculate MOEWS Score	4 Hourly
Document description of PV loss	4 Hourly
Document uterine contractions (Duration, strength & frequency)	4 Hourly
Uterine Activity	Fetal Observations Frequency (if awake)
No Uterine Activity	4 hourly Intermittent Auscultation
Uterine Activity	30 minute CTG at commencement of uterine activity

(not ARMable)	If CTG NORMAL discontinue and resume Intermittent Auscultation 4 hourly **<u>If CTG ABNORMAL</u>** then continue the CTG and escalate to obstetric SpR or above for review If unsure of CTG classification please escalate to a senior midwife /doctor
If a woman appears to be contracting and requests analgesia, a full assessment may be offered to assess progress: • Full set of observations and calculate MOEWs score • Uterine palpation • Consider vaginal examination	
Commence a CTG if: • Any regular uterine activity before administering analgesia • Fresh bleeding • Reduced fetal movements • or any concerns	
Consider a CTG depending on risk factors (IA for all women)	
• SROM regardless of colour	

Refer to the Appendix 3 CRB flow chart pg**Error! Bookmark not defined.**

If the balloon moves out of the cervix, perform a vaginal examination to assess if the woman is suitable for ARM.

If suitable:
- Contact the birthing centre co-ordinator and arrange transfer
- Transfer to the birthing centre will be dependent upon acuity and activity on the Birthing Centre, as well as the number of women already awaiting induction
- See Table Four for monitoring requirements

If not suitable:
- Refer to IOL plan for next step
- Or arrange obstetric review to discuss additional methods of induction e.g. Propess

11.7 If the woman experiences SROM during the induction process

If the woman is an outpatient, advise her to attend the Maternity Assessment Unit (MAU/triage) immediately.
If the woman is an inpatient ensure she knows to inform a midwife if she experiences this.

Complete the following:
- Assess maternal wellbeing and perform a full set of observations and calculate a MOEWs score.
- Assess fetal wellbeing by performing a CTG.
- Remove the CRB if still in situ and perform a vaginal examination to assess:
  - If the woman is suitable for acceleration (Bishop score ≥6), arrange transfer to the birthing centre at the next suitable opportunity. Fetal and maternal observation as per Table Four

If the woman is not suitable for acceleration, arrange obstetric review to consider further methods of induction e.g. Prostin

12.0 Vaginal Dinoprostone controlled release pessary (Propess)

Follow the manufacturers' guidance on the use of Dinoprostone and misoprostol preparations for the induction of labour, including when to remove Dinoprostone controlled-release vaginal delivery systems (NICE, 2021).

If vaginal Dinoprostone is required, the initial drug of choice for induction of labour is Propess. This will be left in situ for between 12 and 24 hours dependant on the woman's risk factors. Propess is a vaginal pessary containing 10mg of Dinoprostone (Prostaglandin E2). Propess is a sustained release preparation delivering active agent over 24 hours.

In women who have had a previous caesarean section, Propess can be considered for induction of labour. The duration it will be left in situ will be decided by the Obstetric Consultant on an individual basis, dependent upon the risk factors and clinical picture. This decision and plan **must** be documented in the woman's EPR.

For management flow chart and contraindications see

Appendix 4 IOL with Propess flow chart pg**Error! Bookmark not defined.**

12.2 Women for whom outpatient Propess is not recommended

Outpatient IOL with Propess is not recommended in the following circumstances. However, these women can undergo Propess IOL as an inpatient:

- IUGR/reduced growth velocity/static growth
- SGA <10th centile with or without abnormal dopplers
- Reduced AFI (<10)
- Polyhydramnios (AFI >25)
- High head
- Previous precipitate labour
- Diabetic on insulin
- Pre-eclampsia
- Uncontrolled PIH/abnormal bloods
- BMI≥50
- Currently report reduced fetal movements (during the induction process)
- Previous uterine surgery
- Safeguarding/complex social circumstances
- Medical disorders

In women who present with reduced fetal movements before allowing home for IOL consider

- **The woman should feel reassured regarding fetal movements following the assessment**
- **Have a normal MEOWS and Dawes Redman**

If not reassured and IOL is indicated they should remain an inpatient and IOL facilitated please refer to the reduced fetal moments guideline.

See Table Four for inpatient maternal and fetal observations:

Table Four: Maternal and Fetal Observations	
Maternal Observations	Frequency (if awake)
Undertake a full set of observations and calculate MOEWS Score	4 Hourly
Document description of PV loss	4 Hourly
Document uterine contractions (Duration, strength & frequency)	4 Hourly
Uterine Activity	Fetal Observations Frequency (if awake)
No Uterine Activity	4 hourly Intermittent Auscultation
Uterine Activity (not ARMable)	30 minute CTG at commencement of uterine activity If CTG NORMAL review the individual circumstances and, if considered low risk, use intermittent auscultation unless there are clear indications for further cardiotocography **If CTG ABNORMAL or excessive uterine activity** then continue the CTG and escalate to obstetric SpR or above for review If unsure of CTG classification please escalate to a senior midwife /doctor
If a woman appears to be contracting and requests analgesia, a full assessment may be offered to assess progress: • Full set of observations and calculate MOEWs score • Uterine palpation • Consider vaginal examination	
Commence a CTG if: • Any regular uterine activity before administering analgesia • Fresh bleeding • SROM regardless of colour • Reduced fetal movements • or any concerns	
Consider a CTG depending on risk factors (IA for all women)	
• SROM regardless of colour	

12.1 Propess insertion

In the following circumstances, the induction is deemed to be high risk, and careful consideration will be given as to where the woman should be when the Propess is inserted:

- Pre-term gestation

- Confirmed small for gestational age with EFW <10th centile and/or abnormal umbilical artery dopplers
- Suspected small for gestational age
- Oligohydramnios (AFI < 5cm)
- Previous Caesarean section

In these cases, the decision must be made by the Consultant and documented in the woman's records.

It may be that the birthing centre is deemed the most appropriate place for Propess insertion for these women. If this is the case, the woman will remain on the birthing centre for a minimum of one hour following insertion of the Propess. An assessment of fetal and maternal wellbeing will be made prior to transfer to the Antenatal ward. These inductions will be managed on an inpatient basis.

Propess will be inserted as follows:

- Propess must be removed from the freezer 20 minutes before insertion
- Propess will be inserted high into the posterior vaginal fornix using only a small amount of a water-soluble lubricant to aid insertion
- The pessary will lie transversely in the posterior fornix
- After insertion, the withdrawal tape must be cut to within 1-2cm of the introitus. Ensure that there is sufficient tape outside the vagina to allow removal. No attempt should be made to tuck the end of the tape into the vagina

Continue CTG for 30 minutes post insertion. If the CTG is normal it will be discontinued and the woman can mobilise.
The woman must be advised to inform the midwife if:

- Contractions become regular (≥ 3 in 10)
- She becomes uncomfortable with contractions and/or requires pain relief
- She experiences vaginal bleeding or spontaneous rupture of the membranes
- The Propess falls out or drops into the lower vagina

If suitable, the woman can be discharged or transferred to the ANPN ward at 60 minutes after the following assessment has been performed:

- Maternal observations (Calculate MOEWS score)
- Auscultate the fetal heart
- Determine uterine activity
- Note and manage any adverse effects e.g. nausea, vomiting, fever, vaginal irritation, abdominal pain, vaginal bleeding, hypertonic uterine activity, abnormal fetal heart rate

If the insertion is carried out on ANDU, and the woman is then discharged, arrange transfer of notes to MAU.

Appendix 4 IOL with Propess flow chart pg**Error! Bookmark not defined.**

12.3 Adverse effects from Propess

Some women may experience a reaction to the Propess and experience strong contractions without a break in-between. This is defined as hyperstimulation, if left untreated it can impact the fetus. The immediate care is to remove the Propess and asses fetal wellbeing whilst escalating to the obstetric team. For management flowchart see;

Appendix 6 Management of hyperstimulation flow chart pg**Error! Bookmark not defined.**

12.4 If the Propess becomes dislodged

If it remains within the vagina it can be repositioned to the posterior fornix.

If the Propess falls out of the vagina, perform a vaginal examination.
If the cervix is unfavourable and the woman wishes to continue the induction, a new Propess may be inserted to continue the induction process for the remainder of the 24 hours.
Do not re-insert the original Propess pessary.
The woman must not receive more than 24 hours' worth of Propess in total.

12.5 Management 12-24 hours following insertion of Propess

Once the Propess has ben insitu for the prescribed amount of time, the woman should be invited back to the unit for Propess removal, fetal wellbeing review and cervical assessment. Appendix 4 IOL with Propess flow chart pg**Error! Bookmark not defined.**

On arrival:

- Conduct a CTG
- Perform a full set of maternal observations and calculate a MOEWS score
- Perform a vaginal examination and assess the Bishop score, if less than 6 insert prostaglandin as per IOL. If > 6 contact BBC.

13.0 Process for administration of Dinoprostone (Prostin)

If a further dose of vaginal Dinoprostone is required, a Prostin tablet may be used. This will be inserted and left to dissolve over 6 hours. No removal is required. Each tablet contains 3mg of Dinoprostone. Appendix 4 IOL with Propess flow chart pg**Error! Bookmark not defined.**

13.1 Dinoprostone (Prostin) insertion

Process for administration of a single dose of Dinoprostone (Prostin)
Follow management of Prostin flowchart; Appendix 5 IOL with Prostin flow chart pg**Error! Bookmark not defined.**

This will be administered **at least four hours** after the removal of the Propess.

- Perform baseline observations (Calculate and document the MOEWS score)
- Perform an abdominal palpation
- Auscultate the fetal heart with Pinnard/doppler prior to commencing a CTG
- After 30 minutes if the CTG is normal and the woman has no PV bleeding or regular contractions, a vaginal examination is performed to administer Prostin
- Avoid the use of Hibitaine as this affects the release of the hormone
- Prostin is inserted into the posterior fornix
- The **CTG is to be continued for a minimum of 30 minutes post insertion**
- The woman's contractions, PV loss and fetal wellbeing are assessed prior to discontinuing the CTG

The woman will be encouraged to mobilise, drink as normal and eat a light diet.

After six hours, the woman will be reviewed by the Registrar/Consultant. If ARM can be performed (Bishop score ≥6) the woman will be transferred to the birthing centre when a space is available.

If an ARM is not possible (Bishop score <6) a review regarding mode of delivery or on-going attempts for IOL should take place with the SpR/Consultant, discussing all options with the mother.

Options if not favourable for ARM at this stage include either a rest day or LSCS.

Continue observations as per Table Four:

Table Four: Maternal and Fetal Observations	
Maternal Observations	Frequency (if awake)
Undertake a full set of observations and calculate MOEWS Score	4 Hourly
Document description of PV loss	4 Hourly
Document uterine contractions (Duration, strength & frequency)	4 Hourly
Uterine Activity	Fetal Observations Frequency (if awake)
No Uterine Activity	4 hourly Intermittent Auscultation
Uterine Activity (not ARMable)	30 minute CTG at commencement of uterine activity If CTG NORMAL review the individual circumstances and, if considered low risk, use intermittent auscultation unless there are clear indications for further cardiotocography **If CTG ABNORMAL or excessive uterine activity** then continue the CTG and escalate to obstetric SpR or above for review If unsure of CTG classification please escalate to a senior midwife /doctor
If a woman appears to be contracting and requests analgesia, a full assessment may be offered to assess progress: • Full set of observations and calculate MOEWs score • Uterine palpation	

• Consider vaginal examination
Commence a CTG if: • Any regular uterine activity before administering analgesia • Fresh bleeding • SROM regardless of colour • Reduced fetal movements • or any concerns
Consider a CTG depending on risk factors (IA for all women)
• SROM regardless of colour

14.0 Monitoring during the IOL when contractions start

When uterine contractions begin after administering Dinoprostone assess fetal wellbeing and uterine contractions with intrapartum cardiotocography interpretation.

If the cardiotocogram (CTG) is confirmed as normal, review the individual circumstances and, if considered low risk, use intermittent auscultation unless there are clear indications for further cardiotocography

If the fetal heart rate is abnormal or there are excessive uterine contractions:

- Continue or restart continuous cardiotocography
- Do not administer any more doses, and
- Remove any vaginal pessaries or delivery systems if possible.
  Follow the advice on monitoring during labour in the Trust fetal monitoring guideline on intrapartum care.

15.0 Uterine hyperstimulation

Hyperstimulation may or may not be associated with fetal heart rate changes (NICE, 2021), if uterine hyperstimulation occurs during induction of labour:

- Carry out a fetal assessment
- Do not administer any more doses of medicines to induce labour and remove any vaginal pessaries or delivery systems if possible
- Consider tocolysis.

For management flowchart see:

Appendix 6 Management of hyperstimulation flow chart pg**Error! Bookmark not defined.**

If a uterine rupture is suspected carry out an immediate category 1 caesarean section (see caesarean section guideline)

16.0 Maternal request to stop the IOL part way through

If a woman chooses not to have induction of labour, discuss the woman's options from this point on with her, e.g. expectant management or caesarean birth, and record the woman's decision in her notes.

Discuss with women who choose not to have their labour induced if they wish to have additional fetal monitoring from 42 weeks. Inform women that:

- Monitoring only gives a snapshot of the current situation, and cannot reliably predict any changes after monitoring ends. It provides information on how their baby is at the moment, and so may help them decide on options for birth

- There are potential adverse effects on the baby (including stillbirth), and it is not possible to reliably predict when these events might happen, or to prevent them - even with monitoring
- Fetal monitoring might consist of twice-weekly cardiotocography and ultrasound estimation of maximum amniotic pool depth.

Offer women who choose to await the spontaneous onset of labour the opportunity to discuss their decision again at all subsequent reviews, if they wish to do so.

Encourage women to contact their midwife or maternity unit if they change their mind before their next appointment, and as soon as possible if they have concerns about their baby, for example reduced or altered fetal movements. (NICE, 2021).

17.0 Delay in induction

If there has been a delay in commencing or continuing induction, escalate to the labour suite co-ordinator, who will follow the unit's escalation policy, and inform the team leads, matrons and obstetric team to ensure there is MDT review. The possibility of transfer to another unit to continue induction should be discussed.
Women on prophylactic or treatment doses of anticoagulant waiting for induction of labour should be prioritised to minimise the time that they are not receiving LMWH (MBRRACE 2020).

If women are at home awaiting ARM then they must be informed to contact the maternity assessment unit if they wish to discuss their plan of care, or if they experience any of the following:

- Regular contractions
- Vaginal Bleeding
- Constant abdominal pain
- SROM
- Feeling feverish or generally unwell
- Concerns regarding their baby's movements

18.0 Unsuccessful induction

See NICE Sections 1.7.2 https://www.nice.org.uk/guidance/ng207/resources/inducing-labour-pdf-66143719773637

If induction is unsuccessful:

- Discuss this with the woman and provide support
- Fully reassess the woman's condition and the pregnancy in general
- Assess fetal wellbeing using antenatal cardiotocography interpretation
- Discuss and agree a plan for further management with the woman, the subsequent management options include:
  - Offering a rest period if clinically appropriate, and then re-assessing the woman
  - Expectant management
  - Further attempts to induce labour
  - Caesarean birth

19.0 Suitability for ARM

Once the woman's Bishop score is ≥6 an ARM should be possible.

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

Once active labour is established, carry out maternal and fetal monitoring as described in the Trust guideline on intrapartum care.

20.0 Avoiding a Cord prolapse

Take the following precautions to avoid the adverse effects of cord prolapse, which may occur if labour is induced:

- Before induction, abdominally assess the level and stability of the fetal head in the lower part of the uterus at or near the pelvic brim
- During the preliminary vaginal examination, obstetricians and midwives should palpate for umbilical cord presentation and avoid dislodging the baby's head
- Carry out a continuous CTG during induction after the membranes have ruptured, if the presenting part is not stable and not well-applied to the cervix. In this situation, discuss the risks and benefits of induction of labour with the woman, and if necessary, consider caesarean birth. If the presenting part stabilises and the CTG is normal, use intermittent auscultation unless there are clear indications for further CTG (NICE, 2021).

21.0 Amniotomy for a delay in the first or second stage of labour on low risk women

The fetal heart rate will be auscultated via IA immediately prior to performing amniotomy and after the procedure. The colour of the liquor is to be documented in the labour records. The timing of commencement of Oxytocics will depend on whether the woman is contracting regularly or not after amniotomy. If the woman is contracting regularly commencement of oxytocin may be delayed for a maximum of two hours following discussion and review by the obstetric team.

22.0 Administration of Oxytocics to women

Prior to the commencement of Oxytocin an abdominal palpation will be performed to identify any abnormality in presentation, position and station of the head. Ensure that rupture of the membranes has occurred. Commence a CTG tracing and ensure CTG is normal (categorised using a sticker as per NICE) prior to starting Oxytocin.

Oxytocin is only administered in the following regime and prescribed by medical staff following a review by the obstetric team and discussion of plan of care with the woman. It can be used in the following regime for induction or augmentation of labour.

5 units of Syntocinon are added to 50ml of 0.9% Sodium Chloride to infuse via a syringe pump. The infusion is titrated to obtain effective uterine contractions. Uterine contractions are assessed as effective if they occur every 2-3 minutes and last for 30-60 seconds. Where contractions occur more frequently the Syntocinon may be reduced.

Commence at 2.4ml/hr = 4 milliunits and increase every 30 minutes until effective uterine contractions are established.

2.4ml /hour = 4 milliunits/minute
4.8ml/ hour = 8 milliunits/minute
7.2ml/hour = 12 milliunits/minute

Seek advice from the registrar/consultant before increasing above 12 milliunits/minute
9.6ml /hour = 16 milliunits/minute
19.2ml/hour = 32 milliunits/minute

Maximum dosage is 32milliunits per minute

If hypertonus occurs see Appendix 6 Management of hyperstimulation flow chart pg**Error! Bookmark not defined.**

The following patients should **not** receive Oxytocin unless they have been reviewed by the obstetric consultant or Registrar; the risk and benefits discussed and a plan agreed:

- Highly parity (4 or more)
- Suspicious fetal heart rate pattern
- Fetal growth restriction
- Previous caesarean section

23.0 Circumstances in which Oxytocin administration should be reduced or stopped

In the presence of a normal CTG tracing Oxytocin may be used to achieve a contraction rate of 4 or 5 contractions every 10 minutes. Oxytocin should be reduced if the woman is experiencing more than 5 contractions in 10 minutes.

The Oxytocic regime should be reviewed by the coordinator or Obstetrician if the CTG tracing is classed as suspicious.

Oxytocin should continue to be increased if suggested, following review to achieve a rate of 4 or 5 contractions in 10 minutes

If the CTG tracing is classified as pathological; Oxytocin should be stopped and a full assessment of fetal wellbeing undertaken by an Obstetrician before it is recommenced.

24.0 Monitoring arrangements for the woman and the fetus when oxytocin is administered

- Continuous electronic fetal heart rate monitoring will be maintained and asses as per the trust fetal monitoring guidelines
- Record maternal observations as per guideline for care in labour
- Contractions will be assessed and recorded every 30 minutes
- Assess and document vaginal loss every 30 minutes and report any vaginal bleeding to the obstetric registrar.

25.0 Roles and responsibilities

25.1 Midwives

To provide the best evidence-based care for women in accordance with appropriate guidance from diagnosis to delivery and inclusion of the women wishes

25.2 Obstetricians

To provide a detailed and clear care plan for induction of labour in discussion with the woman.

26.0 Associated documents and references

Heart of England NHS Foundation Trust.
Clinical Guideline for the Management of Induction of Labour (IOL), including oxytocin infusion May 2018https://hgs.uhb.nhs.uk/wp-content/uploads/Induction-of-labour-including-oxytocin-infusion-2018-V10.pdf

MBRRACE-UK: Saving Lives, Improving Mothers' Care 2020: Lessons to inform maternity care from the UK and Ireland Confidential Enquiries in Maternal Death and Morbidity 2016-18 https://www.npeu.ox.ac.uk/assets/downloads/mbrrace-uk/reports/maternal-report-2020/MBRRACE-UK_Maternal_Report_Dec_2020_v10.pdf

National Institute of Clinical Excellence (NICE) 2009. Inducing Labour https://www.nice.org.uk/Guidance/CG70

NICE (2017) Intrapartum care for healthy women and babies https://www.nice.org.uk/guidance/cg190

Nice (2021) Inducing labour https://www.nice.org.uk/guidance/NG207

27.0 Training and resources

Training will be delivered as outlined in the Maternity Training Needs Analysis. This is updated on an annual basis.

28.0 Monitoring and audit

Any adverse incidents relating to the guideline for induction of labour will be monitored via the incident reporting system.

Any issues will be actioned via the case review and root cause analysis action plans. The action plans are monitored by the risk midwife to ensure that improvements in care are made. The trends and any root cause analysis are discussed at the monthly risk meetings to ensure that appropriate action has been taken to maintain safety.

The guideline for induction of labour will be audited in line with the annual audit programme, as agreed by the CBU. The audit action plan will be reviewed at the monthly risk management meetings on a quarterly basis and monitored by the risk midwife to ensure that improvements in care are made.

29.0 Equality and Diversity

The Trust is committed to an environment that promotes equality and embraces diversity in its performance as an employer and service provider. It will adhere to legal and performance requirements and will mainstream equality, diversity and inclusion principles through its

policies, procedures and processes. This guideline should be implemented with due regard to this commitment.

To ensure that the implementation of this guideline does not have an adverse impact in response to the requirements of the Equality Act 2010 this policy has been screened for relevance during the policy development process and a full equality impact assessment is conducted where necessary prior to consultation. The Trust will take remedial action when necessary to address any unexpected or unwarranted disparities and monitor practice to ensure that this policy is fairly implemented.

This guideline can be made available in alternative formats on request including large print, Braille, moon, audio, and different languages. To arrange this please refer to the Trust translation and interpretation policy in the first instance.

The Trust will endeavor to make reasonable adjustments to accommodate any employee/patient with particular equality, diversity and inclusion requirements in implementing this guideline. This may include accessibility of meeting/appointment venues, providing translation, arranging an interpreter to attend appointments/meetings, extending policy timeframes to enable translation to be undertaken, or assistance with formulating any written statements.

29.1 Recording and Monitoring of Equality & Diversity

The Trust understands the business case for equality, diversity and inclusion and will make sure that this is translated into practice. Accordingly, all guidelines will be monitored to ensure their effectiveness.

Monitoring information will be collated, analysed and published on an annual basis as part of Equality Delivery System. The monitoring will cover the nine protected characteristics and will meet statutory employment duties under the Equality Act 2010. Where adverse impact is identified through the monitoring process the Trust will investigate and take corrective action to mitigate and prevent any negative impact.

Appendix 1 Arranging the IOL flow chart

Arranging the IOL

Low Risk Pregnancy

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.

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

Community Midwives to call Barnsley Birthing Centre to book IOL using the live Induction of Labour spreadsheet.

A total of three induction appointments are available each day.

High Risk Pregnancy

Decision to be made by the obstetric team

A clear plan should be documented regarding methods to be used, fetal monitoring and location of induction i.e. inpatient our outpatient

Book IOL by using the live Induction of Labour spreadsheet.

A total of three induction appointments are available each day.

Ensure women and families are provided with up to date, accurate information regarding their choices and are involved in the decision making regarding their care.

Explain:

- What a membrane sweep is when inducing labour
- That membrane sweeping might make it more likely that labour will start without the need for additional pharmacological or mechanical methods of induction
- That pain, discomfort and vaginal bleeding are possible from the procedure (NICE, 2021]

Appendix 2 – Table Four: Maternal and Fetal Observations

Table Four: Maternal and Fetal Observations	
Maternal Observations	Frequency (if awake)
Undertake a full set of observations and calculate MOEWS Score	4 Hourly
Document description of PV loss	4 Hourly
Document uterine contractions (Duration, strength & frequency)	4 Hourly
Uterine Activity	Fetal Observations Frequency (if awake)
No Uterine Activity	4 hourly Intermittent Auscultation
Uterine Activity (not ARMable)	30 minute CTG at commencement of uterine activity Balloon- If CTG NORMAL discontinue and resume Intermittent Auscultation 4 hourly Pharmacological - If CTG NORMAL review the individual circumstances and, if considered low risk, use intermittent auscultation unless there are clear indications for further cardiotocography **If CTG ABNORMAL or excessive uterine activity** then continue the CTG and escalate to obstetric SpR or above for review If unsure of CTG classification please escalate to a senior midwife /doctor
If a woman appears to be contracting and requests analgesia, a full assessment may be offered to assess progress: • Full set of observations and calculate MOEWs score • Uterine palpation • Consider vaginal examination	
Commence a CTG if: • Any regular uterine activity before administering analgesia • Fresh bleeding • SROM regardless of colour • Reduced fetal movements • or any concerns	
Consider a CTG depending on risk factors (IA for all women)	
• SROM regardless of colour	

Barnsley Hospital NHS Foundation Trust

Appendix 3 CRB flow chart

Cervical Ripening Balloon Induction of Labour - This is the preferred method of induction of labour

Ensure women and families are provided with up to date, accurate information regarding their choices and are involved in the decision making regarding their care

Complete a Datix and red flag (on birthrateplus®) if any delay occurs in commencing IOL, if assessed as ARMable and unit capacity means waiting this is not classed as a delay.

Contraindications to a CRB:

- Any contraindication to vaginal birth
- Malpresentation
- High free fetal head
- Spontaneous rupture of membranes
- Evidence of sepsis, chorioamnionitis
- Maternal genital tract infection
- Previously known low lying placenta < 4cm from the internal Os.

NB: This list if not exhaustive. Women with complex medical or obstetric conditions may need prostaglandins to induce labour.

For outpatient induction of labour women must have:

- Access to a telephone
- Good understanding of English
- Transport
- Someone at home with them during this period of time

Contraindications to Outpatient IOL with CRB:

- Intrauterine Growth Restriction (IUGR) - reduced growth velocity/static growth (if declined LSCS)
- Small for Gestational Age (SGA) <10th centile with (if declined LSCS) or without abnormal dopplers
- Reduced liquor volume Amniotic Fluid Index (AFI) < 5th centile for gestation
- Current complaint of reduced fetal movements
- Woman with safeguarding/complex social circumstances
- Polyhydramnios AFI > 25
- Para 4 or more
- Diabetic on insulin
- Uncontrolled PIH/abnormal bloods
- Twins
- High head
- Previous history of precipitate labour
- Pre-eclampsia
- BMI ≥50

Process: Conduct a Dawes Redman CTG
Perform a full set of maternal observations and calculate a MOEWS score
Perform a vaginal examination and assess the Bishop score:

If SROM on insertion inform BBC to augment (prostaglandins/oxytocin)

< 6 insert the balloon and perform auscultation of fetal heart post insertion

≥6 then contact BBC to arrange an ARM

Discharge Home for 24 hours if suitable

If inpatient: follow fetal monitoring table for observations

After 24 hours

- Conduct a Dawes Redman (normal CTG if any uterine activity is palpable)
- Perform a full set of maternal observations and calculate a MOEWS score
- Perform a vaginal examination and re-assess the Bishop score

Appendix 4 IOL with Propess flow chart

Induction of labour (IOL) using Propess

Ensure women and families are provided with up to date, accurate information regarding their choices and are involved in the decision making regarding their care

Complete a Datix and red flag (on birthrateplus®) if any delay occurs in commencing IOL, if assessed as ARMable and unit capacity means waiting this is not classed as a delay.

Exclusion criteria for Propess

- Established labour
- Contraindications to prostaglandins e.g. allergy
- Placenta praevia
- Unexplained vaginal bleeding at the time of IOL
- Para 3 or more
- Abnormal CTG
- Evidence of cephalopelvic disproportion
- Malpresentation

NB: This list if not exhaustive. Women with complex medical or obstetric conditions should have a discussion with the obstetric team to plan care.

Contraindications to <u>outpatient</u> IOL:

- IUGR/reduced growth velocity/static growth (if declined LSCS)
- SGA <10th with (if declined LSCS) or without abnormal dopplers
- Reduced liquor volume Amniotic Fluid Index (AFI) < 5th centile for gestation
- or Polyhydramnios (AFI >25)
- High head
- Multiple pregnancy
- Previous precipitate labour
- Diabetic on insulin
- Pre-eclampsia
- Uncontrolled PIH/abnormal bloods
- BMI≥50
- Current complaint of reduced fetal movements (during the induction process)
- Previous uterine surgery
- Safeguarding/complex social circumstances
- Medical disorders

For outpatient induction of labour women must have:

- Access to a telephone
- Good understanding of English
- Transport
- Someone at home with them during this period of time

Process:

- Conduct a Dawes Redman CTG
- Perform a full set of maternal observations and calculate a MOEWS score
- Perform a vaginal examination and assess the Bishop score:

< 6 then insert the Propess and commence the CTG monitoring for 30 minutes

≥6 then contact BBC to arrange an ARM

If SROM on insertion inform BBC to augment (prostaglandins/oxytocin)

Home for 24 hours if the CTG is normal this is decided by SpR or Consultant if consultant led care

Inpatient for 24 hours follow fetal monitoring table for observations

- Conduct a CTG
- Perform a full set of maternal observations and calculate a MOEWS score
- Perform a vaginal examination and assess the Bishop score:

<6 then insert prostaglandin as per IOL

≥6 then contact BBC to arrange an ARM

Appendix 5 IOL with Prostin flow chart

Induction of labour using Prostin

To be administered four hours after the removal of Propess
Avoid Hibitaine® as this affects the release of the hormones

Ensure women and families are provided with up to date, accurate information regarding their choices and are involved in the decision making regarding their care

Complete a Datix and red flag (on birthrateplus®) if any delay occurs in commencing IOL, if assessed as ARMable and unit capacity means waiting this is not classed as a delay.

Contraindications to Prostin IOL

- Established labour
- Contraindications to prostaglandins e.g. allergy
- Placenta praevia
- Unexplained vaginal bleeding at the time of the IOL
- Grandmultip (Para 4 or more)
- Abnormal CTG
- Evidence of cephalopelvic disproportion
- Malpresentation
- Use with caution in multiple pregnancy

NB: This list if not exhaustive. Women with complex medical or obstetric contraindications should have a discussion with the obstetric team to plan care

Process:

- Conduct a Dawes Redman CTG
- Perform a full set of maternal observations and calculate a MOEWS score
- Perform a vaginal examination and assess the Bishop score:

< 6 then insert the Prostin and commence CTG monitoring for 30 minutes

≥6 then contact BBC to arrange an ARM

If SROM on insertion inform BBC to augment (prostaglandins/oxytocin)

Inpatient administration only, follow fetal monitoring table for observations

Six Hours following insertion:

- Conduct a CTG
- Perform a full set of maternal observations and calculate and document a MOEWS score
- Perform a vaginal examination and assess the Bishop score:

<6 then for a review by the SpR or consultant

Rest day

Insert prostaglandin

Deliver by LSCS within 48 hours

≥6 then contact BBC to arrange an ARM

Appendix 6 Management of hyperstimulation flow chart

If Hyperstimulation suspected:

- Commence CTG
- Fully assess any PV loss,
- Monitor uterine activity: strength, length and frequency

NB Hyperstimulation may or may not be associated with fetal heart rate changes (NICE, 2021).

Tachysystole

- Change maternal position to left lateral
- Request an obstetric review by SpR or consultant
- Asses risk factors e.g.
  - IUGR/
  - Oligohydramnios
  - Abnormal Dopplers
- These babies are less likely to tolerate hyperstimulation therefore consider early removal of any Propess with tachysystole

Hyperstimulation / Hypertonus

- Change maternal position to left lateral
- Request obstetric review by SpR or consultant
- If high risk remove the stimulus immediately as baby is less likely to tolerate this
- Consider terbutaline 0.25 mg subcutaneous, repeat in 15 minutes if indicated
- **DO NOT** perform an ARM as this will increase the uterine activity

Appendix 7 Information for women

Information for women who are having an induction of labour

Whilst you are an inpatient on the ward, we will be regularly monitoring you and your baby.

Normal practice for women who are having an induction of labour is to have a full set of observations completed and the baby's heart beat listened to every four hours. This is to ensure the wellbeing of you and your baby.

It is important that you let a midwife know if you experience any of the following:

- **Your waters breaking**
- **Any bleeding**
- **If you start having contractions**
- **If you require pain relief**
- **If you are experiencing reduced fetal movements**
- **If you are worried about anything and wish us to listen to your baby's heart rate**

If you wish to discuss this or any aspects of your care, please let the midwife know who is looking after you.

Thank you

Barnsley Maternity team

Appendix 8 Glossary of terms

AFI	-	Amniotic fluid index
ANC	-	Antenatal clinic
ANDU	-	Antenatal day unit
ANPN	-	Antenatal/Postnatal ward
ARM	-	Artificial rupture of membranes
BBC	-	Barnsley Birthing centre
BMI	-	Body mass index
BP	-	Blood pressure
BS	-	Bishop Score
cCTG	-	Dawes Redman computerised cardiotocography
CTG	-	Cardiotocography
CMW	-	Community midwife
CRB	-	Cervical ripening balloon
EFW	-	Estimated fetal weight
EPR	-	Electronic patient record
FBC	-	Full blood count
FH	-	Fetal heart
IOL	-	Induction of labour
IUGR	-	Intrauterine growth restriction
IV	-	Intravenous
LSCS	-	Lower segment caesarean section
MAU	-	Maternity assessment unit
MOEWS	-	Modified obstetric early warning system
NICE	-	National Institute for Health and Care Excellence
OBS	-	Observations
PARA	-	Parity
PIH	-	Pregnancy induced hypertension
PV	-	Per vagina
SGA	-	Small for gestational age
SOP	-	Standard operating procedure
SPD	-	Symphysis pubis dysfunction
SROM	-	Spontaneous rupture of membranes
VE	-	Vaginal examination

Appendix 9 Document history

Version		Date	Comments	Author
7		25.04.2022	Included to auscultate fetal heart post balloon insertion. Included re CTG pre Oxytocin infusion	C Cole

Review Process Prior to Ratification:

Name of Group/Department/Committee	Date
Reviewed by Maternity Guideline Group	04/02/2020
Reviewed at Women's Business and Governance meeting	26/02/2020
Approved by CBU 3 Overarching Governance Meeting	23/02/2022
Approved at Medicines Management Committee (if document relates to medicines)	N/A

Appendix 10 Trust Approved Documents Approval Form

Please complete the following information and attach to your document when submitting a policy, clinical guideline or procedure for approval.

Document type (policy, clinical guideline or procedure)	Guideline
Document title	Guideline for Induction of Labour using Cervical ripening balloon, Propess, Dinoprostone (Prostin) and Oxytocin
Document author (Job title and team)	Quality safety and governance lead midwife, fetal monitoring midwife, Practice educator midwives, Consultant obstetricians, rotational midwives
New or reviewed document	Reviewed
List staff groups/departments consulted with during document development	Midwifery matrons, lead midwives, consultant obstetricians
Approval recommended by (meeting and dates):	Reviewed at Women's Business and Governance meeting — 21/10/2022 Approved by CBU 3 Overarching Governance Meeting — 02/11/2022
Date of next review (maximum 3 years)	08/11/2025
Key words for search criteria on intranet (max 10 words)	Induction of labour, IOL, Induction, Induced, balloon, Propess, Prostin, oxytocin
Key messages for staff (consider changes from previous versions and any impact on patient safety)	
I confirm that this is the <u>FINAL</u> version of this document	Name: Molly Claydon Designation: Governance Support Co-ordinator

FOR COMPLETION BY THE CLINICAL GOVERNANCE TEAM

Approved by (group/committee): CBU3 Overarching governance **Date approved: 02/11/2022** **Date Clinical Governance Administrator informed of approval: 14/11/2022** **Date uploaded to Trust Approved Documents page: 17/11/2022**