# Induction & Augmentation of Labour

University Hospitals of Leicester NHS Trust

**Trust ref: C131/2005**

## Contents

## 1. Introduction and Who Guideline applies to

These guidelines have been developed to provide the best available evidence for use in the management of induction of labour (IOL) and augmentation of labour.
This guideline applies to all healthcare professionals providing care for birthing women and people who are undergoing induction/augmentation of labour at the UHL.

**Related documents & patient information leaflets (all hyperlinked):**

- Intrapartum Care UHL Obstetric Guideline UHL Trust ref: C60/2019
- Fetal Monitoring in Labour UHL Obstetric Guideline UHL Trust ref: C23/2021
- Consent to Examination or Treatment UHL Policy UHL Trust ref: A16/2002
- Chaperone UHL Policy UHL Trust ref: B39/2008
- Vaginal Birth After Caesarean Section UHL Obstetric Guideline. UHL Trust ref: C83/2005
- https://pregnancy.cochrane.org/induction-for-macrosomias
- Yourhealth: Induction of Labour leaflet
- https://yourhealth.leicestershospitals.nhs.uk/library-foley-balloon-catheter-induction-of-labour/file
- Escalation Process for Pregnant Women & People Experiencing Delays for Induction of Labour UHL Trust ref: C75/2023

**Key points/What's New?**

- Changes in relation to use of Propess®;
  - Remove after 24 hours,
  - Detailed guidance regarding use in pre-term and VBAC.
  - In cases of previous uterine surgery, IOL with Propess® must be a discussion and decision made by an obstetric Consultant
  - If the Propess® falls out or is removed for any reason, it must not be reinserted.
  - Further doses of Propess® are not licensed and should only be used in exceptional circumstances.
  - When hyper stimulation has resolved the consultant should be contacted to discuss whether and how to proceed with the induction. Propess® must not be administered again.
- IOL in cases of Grandmultiparity must be counselled by a consultant obstetrician.
- Computerised CTG can be applied prior to commencement of induction of labour in the absence of uterine tightening's
- Update to outpatient IOL criteria
  - People who don't speak English as their first language, support and use translation services
  - Removed 'live within 30 minutes of the hospital' from the criteria required for outpatient IOL
- IOL referral and booking process via App
- Information about plans for when an induction of labour is declined by the woman or birthing person
- New midwifery-led IOL criteria
- Updated patient information resources
- New guidance regarding frequency of membrane sweeps

- Updated safe gestational range criteria for IOL indications
- Guidance to support plans when rupture of membranes occurs following insertion of a balloon catheter

**Abbreviations:**

| | | | |
|---|---|---|---|
| IOL | Induction of labour | AAA | Antenatal Assessment Area |
| UHL | University hospitals of Leicester | PAS | Pregnancy assessment service |
| MAU | Maternity assessment unit | EDD | Estimated Delivery Date |
| SMBC | St Marys Birth Centre | CTG | Cardiotocography |
| VBAC | Vaginal birth after caesarean | IVF | In vitro fertilisation |
| DVP | Deepest vertical pool | ICSI | Intracytoplasmic sperm injection |
| SRM | Spontaneous rupture of membranes | ARM | Artificial rupture of membranes |

## 2. Induction & Augmentation of Labour Guideline

If a birthing woman or person is being induced and has been assessed as high risk, they should be assigned to consultant led care in labour. For those booked under consultant care/specialist clinics, the authorisation, indication and method for induction must be according to the written statement of the consultant or deputy. For birthing women and people assigned to midwife led care antenatally, post-dates induction should be discussed by their community midwife near term.
Indication for induction or augmentation of labour must be documented in the health care record by the clinician taking the decision to induce/augment.

### 2.1 Confirmation of expected date of delivery

Induction date should be arranged using confirmed EDD.
All pregnant women and people should have accurate gestation dating between 8 and 13 weeks if possible, and before 24 weeks.
If EDD has not been confirmed – refer to General Obstetric Clinic / Consultant Led Clinic.

### 2.2 Timing of Induction of Labour for Prolonged Pregnancy

Within the Trust, all birthing women and people should be offered routine induction of labour for prolonged pregnancy at 41+0 weeks (as per NICE guidelines); with the advice to have induction of labour by 41+5 weeks if they prefer to wait longer for natural labour to start. Birthing women and people should be advised that IOL at 41+0 weeks may reduce:

- The likelihood of caesarean birth;
- The chance of the baby needing admission to the neonatal unit;
- The chance of stillbirth or neonatal death;
- However, more research is needed in these areas.

Birthing women and people should be advised to consider how an IOL may impact their birth experience. The table below compares the difference in the number of babies who die or need admission to the neonatal unit when induction of labour is offered at 41 weeks and 42 weeks. Birthing women and people should be advised of the information and referred to the UHL patient information leaflet:

| Outcomes | IOL at 41 weeks | IOL at 42 weeks | Risk difference |
|---|---|---|---|
| Perinatal death | About 4 per 10,000 babies would be expected to die (so 9,996 would not) | About 35 per 10,000 babies would die (so 9,965 would not) | About 31 more babies per 10,000 whose mothers gave birth at 42 weeks would be expected to die; so for about 9,969 per 10,000 the outcome would be the same irrespective of the timing of IOL |
| NICU admission | About 300 per 10,000 babies would be expected to be admitted to NICU (so 9,700 would not) | About 440 per 10,000 babies would be expected to be admitted to NICU (so, 9,560 would not) | About 140 more babies per 10,000 whose mothers gave birth at 42 weeks would be admitted to NICU; so for about 9,860 babies per 10,000 the outcome would be the same irrespective of the timing of IOL |

Guidance on the timing of induction of labour can be found in appendix 6.

There needs to be awareness that birthing women and people 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 (MBRRACE-UK 2021). If there are additional risk factors for those of a black or ethnic minority background, earlier IOL may be considered following a fully informed discussion with the birthing woman or person.

Birthing women and people should be given information (verbally and electronically) about potential benefits and risks of induction of labour.
Information should include that:

- The induction process may take several days and on rare occasions it may not work at all.
- In some circumstances it works very quickly.
- There can be delays either prior to starting the induction or during the process of induction, such delays are usually for a few hours but can sometimes be up to a few days.
- Delays can occur for many reasons such as the delivery suite being extremely busy or because all the midwives are involved with caring for others.
- The induction process will proceed as soon as it is safe to do so.
- We will not delay the induction if there are any immediate concerns with the birthing woman or persons, or the baby's health.

Birthing women and people who have had a previous caesarean section, should receive have a personalised care plan. Details of the pathway that they should follow can be found in the Vaginal Birth After Caesarean Section UHL Obstetric Guideline.

When a birthing woman or person attends hospital for induction for post-dates and is able to proceed straight to artificial rupture of membranes, they may be supported in waiting for induction until term +13 if they wish following an informed discussion. A stretch and sweep should be offered, with consent, prior to discharge if appropriate.

## 2.3 Birthing women and people declining IOL

Birthing women and people who do not wish to have IOL should be referred to General Obstetric Clinic/Consultant Led Clinic/Consultant Midwife and an individual management plan made. In urgent cases where birthing women or people decline IOL at short notice, referral can be made to the maternity assessment unit (MAU) for review and an individual plan made by the on call

obstetric consultant for MAU. The individualised plan must clearly state the birthing woman or person's preference for an alternative IOL date if applicable or for an elective caesarean section.

The alternative IOL date agreed must then be updated on the IOL App. The plan should also state whether CTG monitoring, ultrasound scans and community midwife visits/telephone contacts are required. The IOL App should be updated accordingly and any discussions documented on the electronic maternity record. Birthing women and people who are declining IOL must be advised to contact the maternity unit if they have any concerns.

Birthing women and people should be advised that fetal monitoring with CTG and ultrasound for deepest vertical pool (DVP) only gives a snapshot of the current situation, and cannot predict reliably any changes or adverse effects on the baby (including stillbirth) after monitoring ends (NICE 2021). Where an individualised plan has the offer of CTG/USS monitoring, this should be arranged through the antenatal assessment area (AAA) at the Leicester Royal Infirmary (LRI) or pregnancy assessment service (PAS) at the Leicester General Hospital, in the first instance. MAU may support if these areas are unable to facilitate.

## Indications for Induction of Labour

Indications for induction of labour are outlined in appendix 6 with supporting evidence regarding the safe gestational ranges for commencing induction of labour.

## 2.4 Vaginal birth after caesarean section (VBAC)

Induction of labour for birthing women and people having VBAC is associated with a significant risk of uterine rupture (1 in 50), with a decrease in the rate of successful vaginal birth. Induction of labour may be offered as long as they have been carefully counselled (and this has been fully documented) by a consultant obstetrician. Please refer to UHL Vaginal Birth After Caesarean Section UHL Obstetric Guideline.

The intervention of choice should be foley's balloon induction or artificial rupture of membranes +/- oxytocin. Where this is not possible, birthing women and people may request the use of Propess® rather than caesarean section. Propess® should only be used after agreement by a named obstetric consultant and the patient should be specifically informed that this is an unlicensed use of the drug (as per Trust guidelines on unlicensed drugs) as well as the increased risk of uterine rupture and decreased rate of vaginal delivery. The consultant obstetrician must carefully assess and counsel the birthing woman or person, taking into account their individual history and requests. **Propess® indication and use must be discussed with a consultant obstetrician and clearly documented for those who have had major uterine surgery. Propess® can only be prescribed by ST3 or above, following the consultant discussion.**

## 2.5 IVF Pregnancy

There is limited evidence to support IOL in pregnant women and people having forms of Assisted Reproductive Technology (ART) except IVF. IOL may be offered at 39+4 weeks gestation or later and should be at the discretion of the Obstetrician. The pregnant woman or person's history and preferences should be taken into account when making a joint decision about induction of labour.

Women and people who are pregnant via IVF or ICSI having an IOL should all be offered continuous fetal monitoring in labour due to a higher risk of adverse events.

Women and people who are pregnant via IVF or ICSI can be offered outpatient induction with a balloon catheter; however it is not appropriate for these people to have outpatient induction with Propess®.

## 2.6 Fetal growth restriction

If the pregnancy is complicated by growth restriction, the decision to induce labour should be made in consultation with a senior obstetrician.

Intrapartum care needs to be individualised, particularly with regards to the need for and frequency of fetal monitoring during induction prior to onset of active labour.

Balloon catheter induction (or vaginal Prostaglandins if the birthing woman or person prefers) may be used but the birthing woman or person should be advised to remain an inpatient, with a personalised plan for fetal monitoring.

## 2.7 Suspected large for gestational age fetus and/or maternal diabetes

Pregnant women and people with diabetes, will have a decision regarding IOL made by the responsible clinical team - please refer to the Diabetes in Pregnancy UHL Obstetric Guideline and the Gestational Diabetes Mellitus (GDM) UHL Obstetric Guideline for more detail.

There is some evidence that IOL in pregnant women or people who have a large for gestational age (LGA) fetus, may decrease the rates of both shoulder dystocia and neonatal bony injury. Where the estimated fetal weight is more than 90$^{th}$ centile and in the absence of diabetes or other obstetric indications, induction of labour may be offered at 40 – 41 weeks gestation, solely on the basis that a baby is suspected to be LGA. Pregnant women or people should be informed that scans after 37 weeks have a 15-20% margin of error (Williams et al 2018). When counselling pregnant women and people, the Cochrane infographic on **'induction of labour for big babies**' should be used to support the shared decision making: https://pregnancy.cochrane.org/induction-for-macrosomias

## 2.8 Intrauterine death

In the event of an intrauterine death, depending on maternal condition, intact membranes and the absence of evidence of bleeding or sepsis, the pregnant woman or person can opt for immediate or delayed induction of labour, or expectant management. Where there is evidence of bleeding, sepsis or ruptured membranes, immediate induction should be offered (See Stillbirth and Late Fetal Loss - Bereavement Care UHL Obstetric Guideline )

## 2.9 Obstetric cholestasis

Evidence suggests that the increase in stillbirth occurs with pregnant women or people with bile acids >40 and early IOL should be offered in these cases (see Obstetric Cholestasis UHL Obstetric Guideline)

## 2.10 Grandmultiparity (para 5 or more)

Grand multiparous birthing women and people have approximately the same risk of uterine rupture as those having a VBAC when they have IOL.

Artificial rupture of membranes is the safest option (+/- oxytocin) and this should be attempted by the most experienced operator available. Balloon catheter induction should be offered as this has a decreased risk of uterine rupture. Propess®, should be given with caution, if given, can remain inserted for 24 hours. They should not receive Prostin at all.

Grand multiparous birthing women and people should be fully counselled and appropriately selected for IOL. Induction of labour may be offered as long as they have been carefully counselled (and this has been fully documented) by a consultant obstetrician.

## 2.11 Maternal request/pelvic girdle pain

Induction of labour should not be routinely offered on maternal request alone, except where there are exceptional social circumstances, in which case IOL may be offered. The timing of the IOL should be at the obstetrician's discretion, decided in a Consultant led Clinic, but should ideally be avoided until 41 weeks as per NICE guidance.

## 2.12 Maternal age

All pregnant women and people over 40 years of age have an increased risk of stillbirth compared to those under 35 (2 in 1000 compared to 1 in 1000). Therefore, all those aged over 40 may be offered IOL from 39+4 weeks, after careful assessment of their individualised risk factors (including nulliparity or Afro- Caribbean /South East Asian descent), after discussion with an Obstetrician.

The overall risk is small in the absence of other risk factors, and thus pregnant women and people should be supported to avoid IOL if this is their wish. Where the pregnant woman or person is otherwise low risk, induction may be offered and booked by the Community Midwife.

## 2.13 Polyhydramnios with DVP >8cm and <12cm

There is insufficient evidence in the literature for induction of labour for mild polyhydramnios alone (DVP >8cm and <12cm). However induction of labour may be indicated when polyhydramnios is part of a clinical picture such as maternal diabetes or other obstetric conditions or reduced fetal movements.

## 2.14 Obesity

For guidance regarding pregnant women and people with BMI ≥40 see – UHL Obesity in Pregnancy Labour and Puerperium UHL Obstetric Guideline

## 2.15 Prolonged latent phase

Birthing women and people who have three admissions in the latent phase of labour, or where there is maternal request for intervention, should be discussed with the Obstetric ST3 or above. It is reasonable to offer augmentation of labour under these circumstances after discussion with the birthing woman or person about their preferences. Consideration should be given to the number of vaginal examinations they have received and potential risk of infection.

## Induction of labour <37/40

For birthing women and people who are induced preterm, consideration for a loading dose of intravenous antibiotics should be made in line with Group B Streptococcus in Pregnancy and the Newborn UHL Obstetric Guideline.

Intrapartum, these birthing women and people will be advised to have intravenous antibiotics in labour in line with the Group B Streptococcus in Pregnancy and the Newborn UHL Obstetric Guideline.

They should be advised on the benefit of antenatal colostrum collecting in the days leading up to their induction of labour date. The benefits of delayed cord clamping should also be discussed.

An individualised risk assessment and review must occur by a Consultant Obstetrician prior to the commencement of IOL to assess suitability for Propess®.

## 2.16 Membrane sweeps

### Prolonged pregnancy

Birthing women and people without contraindications and with cephalic presentation and longitudinal lie can be given with consent, 'sweeping of the membranes' when they attend their 39-40 week check either in clinic or at home. This includes those who have had one previous caesarean section. To enable the birthing woman or person to make an informed decision, discuss the following:

- What a membrane sweep is.
- That membrane sweeping may start labour without the need for additional pharmacological or mechanical methods if induction.
- That pain, discomfort and vaginal bleeding are possible from the procedure.
- Whether they would like additional membrane sweeps if labour does not start spontaneously following the first sweep (maximum 3 sweeps in total).

### Planned IOL at 37 weeks – 41 weeks

"Sweeping of the membranes" should be given, with consent a week prior to any booked induction of labour and this may be performed or offered by the community or hospital midwife or obstetrician as for prolonged pregnancy. This includes pregnant women and people who have had one previous caesarean section. An individualised plan for membrane sweeps and induction of labour should be documented on the maternity electronic records.

### IOL prior to 37 weeks

Where a pregnant woman or person is being induced prior to 37 weeks, a pre-induction membrane sweep should only be performed by an Obstetrician. An individualised plan for induction should be documented on the maternity electronic records.

### Contraindications to a membrane sweep

- Head not fixed in pelvis
- Full anticoagulation

### Membrane sweep procedure

Consent to procedure and presence/absence of chaperone must be obtained and documented. In order to perform a membrane sweep the cervix must be open on digital vaginal examination.

Verbal consent should be obtained prior to all pelvic examinations and a chaperone should be offered. This should be documented in the maternity healthcare record. Pregnant women and people, should be asked whether they have received a membrane sweep through private pregnancy services.

Check and document position of head and placenta (check previous scanning reports)

Abdominal palpation must be undertaken before procedure.

Throughout the procedure, the pregnant woman or person should be observed for verbal and non-verbal indications of distress. Any request for the procedure to be discontinued should be respected.

If closed cervix – attempt digital stretch until able to perform membrane sweep. **If unable to admit finger – membrane sweep not to be attempted.** The recommended procedure is that "as much membrane as possible is separated from the lower uterine segment by sweeping the index finger twice in a circumferential manner (i.e., rotating through 360° twice around the internal os)".

Advise the birthing woman or person that they may experience 'contractions' and bleeding post sweep and when to seek professional help.

Check fetal heart rate post procedure.

A maximum of three membrane sweeps should be offered; 48 hours should be given between each membrane sweep. Birthing women and people should be made aware that the timing of membrane sweeps will be dependent on midwifery capacity and clinic appointment availability.

## 2.17 Process of booking induction of labour

UHL adopts safe gestational ranges guidance for induction of labour (see appendix 6). Therefore IOLs will be booked in line with these ranges. At the point of booking an IOL, the referrer should inform the pregnant woman or person the week that they will be offered induction and inform them that they will be contacted with a date nearer the time.

IOLs must be booked by completing either the urgent or non-urgent booking forms via the Referral Hub on Microsoft Teams.

### Urgent (needed within 3 days) IOL booking:

Before completing an urgent booking, the delivery suite coordinator must be informed to maintain oversight of incoming inductions and management plans. If the women or birthing person is having obstetric-led care, the decision for an urgent IOL must be made by a Consultant Obstetrician.

The urgent IOL booking form is located in the UHL – Maternity Teams channel:

1. Access the referral hub and click 'induction of labour request'
2. Click on the red 'urgent induction' button
3. The form must be completed in full
4. The primary and additional RAG score must be completed manually as the urgent form does not pass through the usual triage process (this is done by calculating the scores associated with each reason for induction. Where 'other' reason(s) are inputted, a

Consultant must allocate a score for this risk factor (between 1 and 3), using the current scoring list as a guide (see appendix).
5. The name of the delivery suite coordinator and/or consultant obstetrician who the IOL has been discussed with should be documented in the 'comments box'
6. Once all fields are complete, click on the 'save record' box

You will see a successfully submitted page and will receive a confirmation email when the IOL booking has been received successfully. Upon submission, the record will be automatically added to the Active IOL App 'awaiting admission' list.

**Non-urgent IOL booking:**

Access to the non-urgent IOL booking form is similar to the urgent IOL booking process.

1. Use the referral hub on Microsoft teams and click 'induction of labour request'
2. Click the green 'non-urgent induction' button
3. Complete the form in full
4. Once all fields are complete, click on the 'save record' box

You will see a successfully submitted page and will receive a confirmation email when the IOL booking has been received successfully. This form will then be triaged by the pathway coordinators and allocated a week and subsequently a date for the IOL to commence.

Weekly capacity meetings will prioritise the IOL's across both sites.

The woman or birthing person will be contacted directly with the date they are booked for induction following the MDT ELCS/IOL capacity meeting.

Where the volume of inductions exceeds capacity the booked inductions will be reviewed daily by on call obstetric consultant for delivery suite and delivery suite coordinators.

Birthing women and people may be offered IOL at the site which is not their original intended place of birth if their preferred site doesn't have capacity.

## 2.18 Bishop score

The Bishop Pelvic Scoring system may be used to assess favourability of the cervix, either prior to commencing Induction of Labour or following spontaneous commencement of labour.

Use of the Bishop Score by all staff will enable consistency in:
- Measuring progress of labour
- Giving information to birthing women and people in labour
- Decision making

Verbal consent should be obtained prior to all pelvic examinations and a chaperone should be offered. This discussion must be documented.

The Bishop Score should be recorded in the designated area in the intrapartum notes. It should be noted that Bishop Score is less useful when a birthing woman or person has had balloon catheter induction as this will cause dilatation above effacement and the aim is to proceed to artificial rupture of the membranes rather than achieving a higher Bishop Score.

Contact core midwifery staff on Delivery Suite for advice if the cervix cannot be felt or accurately assessed.

## 2.19 Process of induction of labour

### Assessment on the day of IOL

Verbal consent for all procedures and the IOL process must be obtained and documented in the health record following a full explanation of the process.

A risk assessment should be carried out on admission using the Intrapartum risk assessment sheet.

A presentation ultrasound should be performed on admission to confirm presentation, unless an ultrasound has been performed ≥36 weeks gestation showing a cephalic presentation. If abdominal palpation cannot determine the lie of the baby, an ultrasound scan must be performed. If cephalic presentation is not confirmed, do not proceed with an induction of labour until there has been an obstetric review.

- Maternal observations should be taken and MEOWS score 0.
- A MEOWS score of 1 or more will require discussion with the Obstetrician.
- A CTG should be performed and classified as normal.

High risk birthing women and people attending for IOL should receive obstetric review prior to progressing with the IOL. The on call obstetric anaesthetist must be informed when an induction is being commenced for those who have a BMI >40

### 2.19.1 Balloon catheter induction of labour

If the birthing woman or person has an unfavourable cervix, cervical ripening is required. Verbal consent for induction of labour must be obtained for all birthing women and people, with additional consent for balloon induction (see below).

A computerised CTG should be used prior to induction of labour if there is no uterine activity. If there is uterine activity, a non-computerised CTG should be commenced for 30 minutes prior to any cervical ripening being undertaken. If a computerised CTG is used, the IOL should be commenced promptly within 30 minutes. If the CTG is abnormal DO NOT continue with the induction process and document a plan of care and organise an obstetric review.

The patient information leaflet specific to Balloon Induction of Labour (appendix 5) must be given to all pregnant women and people who are considering balloon induction. This is available online via 'Your Health Leicester Hospitals

### Who can be offered the balloon induction method?

Audit has shown safe practice following the phased introduction of Foleys balloon catheter induction. All pregnant women and people can now be offered induction of labour with Foleys catheter with the following **EXCEPTIONS**:

- Head not fixed in the pelvis
- Ruptured membranes
- Those with latex sensitivity / allergy if latex free Foleys catheters are not available
- Cervix is open enough to proceed with artificial rupture of membranes

- Pregnant woman or person declines balloon induction and wishes to proceed with prostaglandin induction

Use a Foleys balloon catheter with **caution** when there is Polyhydramnios.

The following must still be adhered to:

- Trained staff available to insert the balloon catheter or supervise insertion;
- Pregnant woman or person has read and understood the patient information leaflet and has verbally consented to say that they are happy to proceed.

**Balloon catheter insertion procedure**

**Insertion**

Document that the pregnant woman or person has given consent to induction with Foley balloon catheter.

Insertion of the balloon catheter can be undertaken by obstetric doctors or midwives who have been LCAT certified or obstetric doctors or midwives being supervised by a doctor, or midwife who has been LCAT certified. This will initially be restricted to band 6 and 7 midwives and Consultants and Specialty Registrars in Obstetrics and Gynaecology ST1 and above.

The procedure is performed under aseptic conditions and should be clearly documented in the notes.

Equipment required is as follows:

- 22F, 24F or 26F Foley catheter
- speculum
- sponge holding forceps
- sterile gloves
- sterile towel
- 30ml sterile water/saline
- 3x 10ml syringes
- spigot
- tape
- light source

Ensure all equipment is available**.** Once the pregnant woman or person is positioned, place equipment on the sterile drape. Vaginal examination should be undertaken prior to the procedure to ensure that the cervix is not already suitable for artificial rupture of the membranes. A balloon catheter can be inserted by vaginal examination or through the use of a speculum.

- Insert the speculum to visualise the cervical os
- Use the sponge holder to guide the catheter through the os past the balloon
- Alternatively, perform a vaginal examination, stabilise the external os with two fingers and feed the catheter through the cervix.
- Inflate the balloon to 30 ml
- Tape the end of the catheter to the patient's inner thigh under slight tension
- A digital vaginal examination should be undertaken to confirm the correct placement of the balloon (above the internal os)
- Document procedure in notes

Occasionally, on insertion of the balloon catheter, the membranes may be accidentally ruptured. If this occurs, an individualised plan must take place with the senior obstetrician on labour ward and the pregnant woman or person. Options for continuing the IOL may include:

- Await 24 hours to establish in labour in line with SROM guideline
- Continue IOL using prostin (prostin must be not be administered within 2 hours of the time of ruptured membranes to avoid hyperstimulation)
- Augment labour using oxytocin

**Post procedure**

Following introduction of the balloon catheter, a CTG should be carried out for a minimum of 30 minutes if normal and 60 minutes for women who are going to be managed as outpatients.

**Outpatient management of balloon induction**

There are no reported cases of hyperstimulation with any form of mechanical induction therefore it is safe for the majority of birthing women and people to go home with a Foley catheter in situ. If they do not want to go home, they may be admitted to the ward instead.

Birthing women and people should not be offered outpatient induction if they have the following:

- Pre-eclampsia
- Severe pregnancy induced hypertension (requiring two or more anti-hypertensive agents)
- Type 1 or Type 2 diabetes
- Considered to be at high anaesthetic risk (e.g. BMI >45)
- Decreased fetal movements within the last 24 hours or have been an inpatient with decreased fetal movements within the last 7 days.
- Recurrent reduced fetal movements during the pregnancy
- Twin pregnancy and higher multiples
- Induction occurring prior to 37 weeks or after 42 weeks gestation
- Known fetal abnormality or growth restriction
- History of unstable lie in this pregnancy
- Any condition that has required inpatient monitoring in the 7 days leading up to the induction

Furthermore the following 'social' criteria should be met:

- Have access to a mobile telephone
- Able to remain in the company of an adult
- No current safeguarding alerts open at the start of the IOL process

If a woman or birthing person wishes to go home whose 1st language is not English, this can be facilitated following an individualised risk assessment. Interpreting services must be used to ensure they understand when they need to contact the hospital and are aware of phone numbers to call. If a phone call is made to the maternity unit whilst an outpatient, they must always be invited in for assessment.

If there is any doubt about the pregnant woman or person's suitability for outpatient induction, this should be discussed with the Obstetric Consultant or Senior Registrar and a plan documented in the notes.

**On discharge the pregnant woman or person must be aware of:**

- What contractions will feel like and how to monitor them
- How to differentiate between contractions and abdominal pain
- Vaginal bleeding and how it differs from a show
- Signs of Spontaneous Rupture of Membranes (SRM)
- Signs of infection
- The need to continue monitoring fetal movements
- How to recognise if the Foley has fallen out
- What the plan is for communication and when to contact the hospital.

**The pregnant woman or person should be advised to contact the delivery suite when:**

- The contractions are regular >2:10, painful and lasting up to 45 seconds or more
- The contractions are occurring more than 4 in every 10 minute period
- There is any vaginal bleeding or SRM
- Fetal movements are reduced

Pregnant women and people must be provided with the appropriate contact numbers.

**Inpatient management of induction**

Birthing women and people who meet the criteria for outpatient IOL, but who either do not want to go home or do not meet the 'social' criteria for doing so, should be offered ward admission. They should have once daily observations and fetal heart rate auscultation with Pinards/Doppler, but do not need CTG monitoring unless abnormal observations, altered fetal movements develop or any other concerns arise.

Birthing women and who are inpatients and do not meet the criteria for outpatient IOL should have an individualised plan documented regarding frequency and type of fetal monitoring needed.

Any birthing woman or person experiencing tightening's must have a holistic antenatal review 4 hourly, which includes auscultation of the fetal heart rate.

A senior obstetrician should be involved in all decisions to move high risk birthing women or people having balloon induction to the ward. Those at high anaesthetic risk and those with existing fetal concerns should not be transferred to the ward. An individualised care plan should be made regarding frequency of CTG and observations for these birthing women and people.

**Removal of balloon catheter**

The balloon catheter should be left in until the catheter falls out or up to a maximum of 24 hours. For those with significant issues affecting their pregnancy or wellbeing (such as severe pre-eclampsia or severe growth restriction), vaginal examination can be considered earlier (after 6-12 hours) to see if artificial rupture of the membranes is possible.

The balloon should be deflated prior to removal in cases of ruptured membranes and then oxytocin can be started when safe to do so. Otherwise the balloon can be gently removed during a digital vaginal examination (this is particularly useful when assessing for early removal).

A vaginal examination should then be performed to assess for the suitability for ARM.

If an ARM is unable to be performed, an individualised plan should be made to assess suitability for Propess®. This should be discussed with the Senior Obstetrician on Labour Ward.

### 2.19.2 Propess®

Where the cervix is not open enough to allow ARM and the birthing woman or person does not meet the criteria for cervical priming with the balloon catheter (including patient preference), Propess® should be administered for cervical ripening by a midwife or obstetrician trained to do so.

**Propess® and uterine scar**
Propess® is contraindicated in birthing women and people who have had major uterine surgery including caesarean section and myomectomy. The risk of uterine rupture is estimated at 1 in 50 where a Propess® is used. The intervention of choice should be foley's balloon induction or artificial rupture of membranes +/- oxytocin. Where this is not possible, birthing women and people may request the use of Propess® rather than caesarean section. Propess® should only be used after agreement by a named obstetric consultant and the patient should be specifically informed that this is an unlicensed use of the drug (as per Trust guidelines on unlicensed drugs) as well as the increased risk of uterine rupture and decreased rate of vaginal delivery. The consultant obstetrician must carefully assess and counsel the birthing woman or person, taking into account their individual history and requests. **Propess® indication and use must be discussed with a consultant obstetrician and clearly documented for those who have had major uterine surgery. Propess® can only be prescribed by ST3 or above, following the consultant discussion.**

The following risk factors further increase the risk of scar rupture and/or unsuccessful induction of labour:

- Previous unsuccessful IOL
- No previous labour
- High head
- Suspected macrosomia
- Grand multiparity
- Short inter-pregnancy interval (< 2 years)
- Uterine peroration during surgical procedures

**Propess® and multiple pregnancies**
Propess should be used with caution in multiple pregnancies.

**Propess® storage and administration**

Propess® vaginal insert is stored in the freezer. It can be removed from the freezer immediately before use or up to 20 minutes before insertion.

A computerised CTG should be used prior to induction of labour if there is no uterine activity. If there is uterine activity, a non-computerised CTG should be commenced for 30 minutes prior to any cervical ripening being undertaken. If a computerised CTG is used, the IOL should be commenced promptly within 30 minutes. If the CTG is abnormal DO NOT continue with the induction process and document a plan of care and organise an obstetric review.

CTG monitoring is to be carried out 30-60 minutes post Propess® dose. Post Propess® CTG should be commenced 30 minutes after the dose is administered. Findings should be recorded in the notes.

Once prostaglandin priming has occurred with Propess® for a maximum of 24 hours, the aim should always be to progress to artificial rupture of membranes, unless the cervix remains

closed. Further doses of Propess® are not licensed and should only be used in exceptional circumstances. If the Propess® falls out or is removed for any reason, it must not be reinserted. If an ARM cannot be performed, consideration should be given and discussed with the obstetric team regarding insertion of a balloon catheter.

**Management of hyperstimulation**

- **Tachysystole**: ≥ 5 contractions in 10 minutes with normal CTG
- **Hypertonus**: Painful contraction lasting ≥ 90 seconds with normal CTG
- **Hyperstimulation**: Tachysystole or hypertonus with abnormal CTG

If tachysystole or hypertonus is suspected, CTG monitoring should be commenced immediately. If CTG is normal, the SpR (ST3 or above) should be informed and the CTG should be continued. If the CTG is **not** normal then Propess® should be removed and the SpR informed immediately. Terbutaline 0.25 mg s/c should be considered, however due to the short half-life of dinoprostone and the low dose released per hour, the hyperstimulation should resolve spontaneously in 15 – 20 minutes.

When the hyperstimulation has resolved the consultant should be contacted to discuss whether and how to proceed with the induction. The options are to consider mechanical induction with a Foley catheter. Propess® must not be administered again.

**Spontaneous rupture of membranes with propess insitu**

If the membranes rupture whilst Propess® is in situ, CTG monitoring should be started and contractions assessed.

Upon confirmation of ruptured membranes, the Propess® pessary must be removed.

Oxytocin must not be started for a minimum of 30minutes following removal to avoid hyperstimulation.

**Monitoring during Propess®**

A senior obstetrician should be involved in all decisions to move birthing women and people with Propess® to the ward. Those at high anaesthetic risk and those with existing fetal concerns should not be transferred to the ward. An individualised care plan should be made regarding frequency of CTG and observations for these birthing women and people. Birthing women and people should be advised that maternal observations and fetal heart rate monitoring should be performed a minimum of 4 hourly. Informed choice regarding fetal monitoring should be discussed.

If contractions become strong and regular, SRM occurs or if the birthing woman or person requires further analgesia, then a vaginal examination should be considered and a CTG performed.

If labour is diagnosed, then transfer to delivery suite (or birth centre where appropriate) should occur to continue management.

**Outpatient induction with Propess®**

Due to the risk of hyperstimulation, the criteria for outpatient induction with Propess® must remain more restrictive compared with Foley balloon induction. If the birthing woman or person chooses to undergo prostaglandin induction, they can be offered the option of going home

following the insertion of Propess® if they would have met the criteria for delivering in the alongside birth centre had they laboured spontaneously. They should be warned about the risk of hyperstimulation with Propess® and that outpatient balloon induction would be the preferred management. This includes birthing women and people who are or have:

- Booked under midwife led care and no risk factors have been identified
- Between 37 weeks and 40+12 weeks gestation
- Aged 18 or more at booking
- Has a BMI of 35 or below
- Para 3 or less and has no history of precipitate labour (Para 4 may go home but this should be carefully discussed with the birthing woman or person and the risk of hyperstimulation and rare but subsequent uterine rupture documented and understood).
- Has not had any previous uterine surgery
- Has access to a mobile telephone
- Attends with an adult and must remain in the company of an adult.
- No current safeguarding alerts open at the start of the IOL process

If a woman or birthing person wishes to go home with Propess® whose 1st language is not English, this can be facilitated following an individualised risk assessment. Interpreting services must be used to ensure they understand when they need to contact the hospital and are aware of phone numbers to call. If a phone call is made to the maternity unit whilst an outpatient, they must always be invited in for assessment.

Birthing women and people who meet the criteria for outpatient IOL but decline, should be offered hospital admission. They should have once daily observations and fetal heart rate auscultation with Pinards/Doppler, but do not need CTG monitoring unless abnormal observations, altered fetal movements develop or any other concerns arise.

If they start contracting, request pain relief or SRM, repeat the CTG and then perform maternal observations and fetal heart rate monitoring a minimum of 4 hourly.

**Discharge home with Propess®**

With prostaglandin induction, the birthing woman or person should remain in the designated induction of labour area for a further 30 minutes following completion of 60 minutes of normal post Propess® CTG and longer if any concerns. Providing all maternal and fetal monitoring has been normal throughout the process the birthing woman or person can be offered discharge home. NB. Birthing women or people, who have required prostaglandins for induction followed by ARM, should not be offered subsequent home management.

Uterine activity must be absent prior to discharge.

**On discharge the birthing woman or person must be aware of:**

- What contractions will feel like and how to monitor them
- How to differentiate between contractions and abdominal pain
- Vaginal bleeding and how it differs from a show
- Signs of SRM
- Signs of infection
- The need to continue monitoring fetal movements
- How to recognise if the Propess® has fallen out
- What the plan is for communication and when to contact the hospital. They should be advised to contact the delivery suite when:

    - The contractions are regular >2:10, painful and lasting up to 45 seconds or more
    - The contractions are occurring more than 4 in every 10 minute period, they should be advised to remove the Propess® and bring it with them to hospital
    - There is abdominal pain other than contractions, they should be advised to remove the Propess® and bring it with them to hospital
    - There is any vaginal bleeding, they should be advised to remove the Propess® and bring it with them to hospital
    - SRM -they should be advised to remove the Propess® and bring it with them to hospital
    - Fetal movements are altered
    - If the Propess® falls out or is removed for any reason, it must not be reinserted.
- The occasional undesirable side effects that may be seen that can normally be associated with intravaginal dinoprostone administration. Gastrointestinal effects such as nausea, vomiting and diarrhoea have been reported.
- The appropriate contact numbers must be provided.

The midwife must be clear that the birthing woman or person has fully understood and document to that effect by completing the discharge checklist (see appendix 3).

## 2.20 Follow up for all outpatient inductions

The midwife must inform the Delivery Suite Co-Ordinator regarding birthing women and people sent home with Balloon Catheter in situ, Propess® in situ or following ARM. This must be documented on the IOL App under 'current location'.

### Outpatient balloon induction; Midwives responsibilities

The Midwife caring for the inductions must ensure that the birthing woman or person has a time to return to the labour ward at the point they are discharged.

The Midwife must have a low threshold for advising women to return to the hospital. The woman must be invited in for assessment in the event of her second telephone contact. If the Foley catheter falls out, the woman should be advised to keep it and bring it into hospital with her.

### Outpatient Propess®; Midwives responsibilities

The midwife must have a low threshold for advising birthing women and people to return to the hospital. If there is vaginal bleeding, SRM, contractions are occurring more than 4 in every 10 minutes or abdominal pain other than contractions, the birthing woman or person should be asked to remove the Propess® and bring it to hospital. If the Propess® falls out, the birthing woman or person should be advised to keep it and bring it into hospital with them. If the Propess® falls out or is removed for any reason, it must not be reinserted.

The birthing woman or person must be invited in for assessment in the event of their second telephone contact.

The Midwife caring for the inductions must ensure that the birthing woman or person has a time to return to the labour ward at the point they are discharged (22 hours following insertion of Propess®).

### Going home following ARM; Midwives responsibilities

Birthing women and people who meet the following criteria would be suitable for midwifery-led IOL (have an ARM and be discharged home to await established labour):
- Post-dates- 41-42/40 (no other risk factors)
- Maternal Choice for SPD or social reasons (excluding safeguarding)
- Maternal age <45 (no other risk factors)
- Late booker (no other risk factors)
- IUI pregnancy (no other risk factors)

Prior to discharge from hospital, the birthing woman or person should be given a time to return to the hospital to proceed with oxytocin augmentation. This should be a maximum of 24 hours following artificial rupture of membranes without previous prostaglandins. If the birthing woman or person labours spontaneously and was originally suitable for home birth or SMBC or either of the alongside Birth Centres, they may choose to continue to birth in those locations as long as no new risk factors have developed (see appendix 7 for pathway. Those, whose sole intervention is artificial rupture of the membranes, may choose to labour at home (if they were already planning a home birth) or SMBC if they meet the criteria (see Intrapartum Care UHL Obstetric Guideline). They do not require a CTG if there are no further concerns.

## 2.21 Labour with one intervention reverting back to low risk midwifery led care.

If the woman would otherwise have met the criteria for intermittent auscultation and has only required one intervention to labour (i.e. Foley catheter or single Propess®), she may choose to labour and deliver in the Orchard Birth Centre or Meadow Birth Centre, providing an initial CTG in labour is normal. They do not require a CTG if there are no further concerns.

### Returning to delivery suite

A full maternal and fetal assessment (including CTG) should be carried out including repeat intrapartum risk assessment.

A woman undergoing post-dates IOL with no other risk factors can return to midwifery led care providing the labour establishes following Foley catheter only, one Propess® or ARM and otherwise continues to be suitable for midwifery-led care.

Where the Propess® is suspected to have fallen out but is not available for inspection, a speculum examination should be offered to the woman to exclude a retained pessary.

### Removing propess

To remove Propess®, apply gentle traction on the retrieval tape (the insert will have swollen to 2-3 times its original size and be pliable). The time of removal must be documented in the health record.

Propess® **must** be removed immediately in the following instances (removal must be documented in all cases):

- When labour is established (contractions ≥3:10 or cervix dilated ≥ 3cm)
- Vaginal bleeding
- Ruptured membranes
- Uterine hyperstimulation or hypertonic uterine contractions (see above for definition and management)
- There is abdominal pain other than contractions
- Evidence of fetal compromise

- Evidence of maternal adverse dinoprostone effects (nausea, vomiting, hypotension or tachycardia)
- At least 30 minutes prior to starting an intravenous infusion of Oxytocin

There must be confirmation that the Propess® has either fallen out or been removed, as there have been cases of retained Propess® postnatally.

## 2.22 Fetal heart rate monitoring during induction of labour

For ALL women the fetal heart rate should be monitored during the **initial** induction process as follows:

**Before** Balloon catheter, Propess® or Prostin: CTG for 30 minutes or computerised CTG if not having uterine acitivty

**After** Propess®: wait for 30 minutes following administration and then perform non-computerised CTG for 30 minutes (or start immediately and continue for 60 minutes), CTG for 60 minutes if going home (see page 15).

After Balloon catheter or Prostin: Commence non-computerised CTG immediately following administration and continue for 30-60 minutes.

### Ongoing fetal heart rate monitoring in a hospital setting

After administration of vaginal Propess® or Prostin, when contractions begin, fetal wellbeing should be assessed with a non-computerised CTG.

Maternal respiratory rate, pulse and blood pressure should be taken and a CTG recommended if the woman reports any of the following:

- Abdominal pain
- Painful uterine activity
- Vaginal bleeding (other than a show)
- Reduced fetal movements
- Spontaneous rupture of membranes

If there are any changes in the clinical situation a repeat CTG should be performed.

### Intermittent auscultation

If the woman would otherwise have met the criteria for intermittent auscultation and is an inpatient with a Foley balloon catheter or Propess®, she may have once daily auscultation with a Doppler unless a CTG is indicated as described in the section above.

If the woman would otherwise have met the criteria for intermittent auscultation and has only required one intervention to labour of either balloon catheter induction, single Propess®, she should have an initial CTG if in hospital. If that CTG is confirmed as normal, intermittent auscultation can be used. Women meeting the criteria for intermittent auscultation in this way, can be offered labour and delivery in either of the alongside birth centres. Women meeting the criteria for intermittent auscultation, who have only had artificial rupture of the membranes, may choose to deliver at home or SMBC. They do not require an initial CTG in labour if there are no other concerns. The Intelligent Intermittent Auscultation in Labour UHL Obstetric Guideline should be followed.

### Monitoring following Prostin

Following the initial post Prostin insertion CTG, if the woman starts contracting or requests any pain relief, the CTG should be repeated and the fetal heart rate should be auscultated a minimum of every hour unless continuous monitoring is indicated.

### Continuous electronic fetal monitoring (CEFM)

Women who meet the criteria for CEFM and are an inpatient with a Foley balloon catheter, Propess® or Prostin, must have at least a once daily CTG unless a CTG is indicated as described in the section above. Women requiring more frequent CTG monitoring will have an individualised plan recorded in her healthcare record.

Women who meet the criteria for CEFM as described in the "Intrapartum Care UHL Obstetric Guideline" guideline should be offered monitoring in this way. An individualised management plan for on-going fetal heart rate monitoring may have been made in the antenatal clinic, prior to discharge home with balloon catheter induction, out-patient Propess® or on admission to the delivery suite and documented in the health record and this should be followed. This plan may change following repeat risk assessments and the revised plan should be clearly documented in the health record.

## 2.23 Artificial rupture of membranes

### Artificial rupture of membranes for women meeting the midwifery-led criteria

Women who only require artificial rupture of membranes (ARM) to commence their IOL and meet the midwifery-led criteria may choose to

- wait for the onset of labour for up to 24 hours before starting Oxytocin augmentation,
- or to be augmented from 2 hours post ARM.

If waiting for labour, they may be discharged home using the criteria set out in 'outpatient induction with Propess®' and may choose to labour and deliver in SMBC, at home or in either of the alongside birth centres as long as no other risk factors have developed. Women should not be pressured to follow this pathway and we envisage that the absolute numbers of women meeting these strict criteria to be small (see appendix 7).

Birthing women choosing to have an ARM and await established labour up to 24 hours must be counselled regarding the risk of infection. The risk of chorioamnionitis increases when membranes are ruptured and increases furthermore when membranes have been artificially ruptured.

### Artificial rupture of membranes for birthing women and people with risk factors

Where there is no;

- Meconium,
- History of group B strep
- Blood borne viruses
- Other fetal concerns

Oxytocin augmentation can be delayed for up to 6 to 12 hours to enable a spontaneous labour to commence, unless they choose oxytocin to be started 2 hours post ARM.

### After balloon catheter or Propess® induction

Following Balloon catheter induction or Propess® or Prostin, perform ARM whenever possible.

Where prostaglandins or a balloon catheter have been used to prime the cervix, oxytocin augmentation is recommended within 12 hours (usually within 6-8 hours of ARM unless the birthing woman or person chooses oxytocin augmentation after 2 hours of ARM).

Mobilisation should only be offered following 30 minutes of normal CTG. Every 6 hours, a CTG should be offered to all high risk birthing women and people who have had an ARM and are waiting for Oxytocin. Intravenous oxytocin infusion should then be used as detailed in section 2.24 below.

Where there is meconium, history of group B strep / blood borne viruses or other fetal concerns Oxytocin should be commenced after 30 minutes but within 120 minutes of ARM, balloon catheter, Propess® removal.

If ARM is not physically possible after Propess®, a repeat examination by an experienced operator should be carried out and further management should be discussed with the senior registrar or consultant. The routine use of Prostin is not sanctioned by this guideline. Balloon catheter insertion should be considered following an individualised risk assessment by an obstetrician (See section 2.25: Failed Induction).

## 2.24 Oxytocin

### Induction of labour:

Oxytocin can be commenced a minimum of;

- 30 minutes after removal of Propess® or balloon catheter,
- or a minimum of 6 hours post Prostin insertion.

Oxytocin should not be commenced if hyperstimulation, tachysystole or hypertonus are present. Oxytocin should be commenced in line with the recommendations detailed above following ARM. The process of using oxytocin is described below.

### Augmentation of labour:

If a birthing woman or person in spontaneous labour has not progressed satisfactorily (see Intrapartum Care UHL Obstetric Guideline), augmentation of labour should be considered. This must be discussed with a doctor ST3 or above, who should make an assessment of the birthing woman or person as appropriate.

The decision to start oxytocin should be taken at ST3 level or above and an individualised plan made regarding when to confirm adequate progress has been made, which takes into consideration the obstetric history, contraction frequency and previous events in labour. In cases where adequate progress has not been made, the oxytocin should be discontinued and the birthing woman or person offered delivery by Caesarean section.

Subsequent progress in first and second stage should be maintained. Where progress is not maintained, Oxytocin should be discontinued and the birthing woman or person should be counselled in favour of delivery by caesarean section

### Caution

Particular caution should be used where the birthing woman or person is multiparous or has had a previous caesarean section. Augmentation of labour in the presence of a secondary arrest in either of these circumstances carries significant risk of harm to both mother and / or baby and should only be performed after fetal, abdominal and vaginal assessment by a doctor ST3 or above.

**Using oxytocin**

Assessment prior to commencement of oxytocin for induction or augmentation in labour should include:

- Gestation
- Parity
- Contractions (frequency and duration)
- Blood pressure and pulse
- Fetal lie and presentation
- Fetal heart assessment
- Cervical dilatation

This assessment should be recorded on the 'Commencement of Oxytocin' form in mother's case notes (see appendix 2).

A management plan should be recorded on the 'Commencement of Oxytocin' form and filed in the maternity health records. At induction, this would include a vaginal assessment four hours from regular contractions unless indicated sooner. At augmentation, an individualised plan is made regarding when to confirm adequate progress has been made, which takes into consideration the obstetric history, contraction frequency and previous events in labour.

The documentation of when to stop Oxytocin is included on the commencement of oxytocin form.

**Administration of oxytocin**

Oxytocin can be commenced a minimum of 30 minutes after removal of Propess® or balloon catheter and ideally not longer than 90 minutes, or a minimum of 6 hours post Prostin insertion. A CTG must be in progress for at least 20 minutes before commencement of oxytocin to ensure optimal fetal wellbeing before commencement.

Oxytocin must be administered carefully at a set regime (see appendix 1) until contraction frequency is 3 - 4 in 10 minutes. Aim for regular, moderate / strong contractions that last for a minimum of 50 seconds but no longer than 60 seconds.

Where the optimum contraction frequency has not been achieved and/or there is inadequate progress in labour an Obstetric review should take place. The oxytocin dose should only be increased beyond the manufacturers recommended maximum of 20 mU per minute if the desired contraction frequency has not been achieved.

Where the infusion is interrupted for less than 30 minutes for reasons other than uterine hyperstimulation, it can be restarted at the same rate it was prior to interruption. Where the infusion was interrupted for uterine hyperstimulation it should be restarted at a lower rate after hyperstimulation has resolved. The exact rate should be a matter of clinical judgement by an experienced Obstetrician.

Oxytocin must be administered through a rate controlled infusion device. 3 way taps should not be routinely connected.

If giving IV fluids as well as oxytocin, a one way valve must be attached to the fluid infusion line in order to prevent oxytocin backflow.

**Monitoring of oxytocin:**

Maternal observations should be carried out as per the Intrapartum Care UHL Obstetric Guideline. Continuous electronic fetal monitoring must be used. This monitoring should be documented on the partogram and / or case notes.

**Stopping oxytocin**

When oxytocin is stopped, this should be documented in the maternity health care record. The indications for stopping oxytocin and actions are printed on the 'Commencement of oxytocin' form and are as follows:

- Uterine hyperstimulation:
  Reduce oxytocin infusion rate, consider medical review
- Suspicious CTG:
  Review by ST3 doctor or above
- Pathological CTG:
  Stop oxytocin. Full assessment by ST3 doctor above before restarting.
- Suspected secondary arrest:
  Stop oxytocin. Consider caesarean section.
- Delivery of the baby and placenta:
  Stop oxytocin

## 2.25 Unsuccessful induction of labour

The definition used by NICE for unsuccessful induction with prostaglandin is "the failure to induce progressive labour after **one** cycle of treatment".

**Recommendations on unsuccessful induction of labour**

The decisions regarding the management of an 'unsuccessful induction' must be made in accordance with the birthing woman or person's wishes and with regard to the clinical circumstances.

A full assessment of the pregnancy in general, the birthing woman or person's condition and fetal wellbeing using electronic fetal monitoring should be made. The decision how to proceed must be made by a senior obstetrician and a plan documented in the maternity health care record. Subsequent management could include:

A further cycle of vaginal prostaglandin using Dinoprostone (Prostin) 3mg tablets every 6 hours (maximum of 2 tablets in total)
NB: If further prostaglandins are going to be used, this should involve

- a vaginal examination by a senior midwife, a member of the midwifery induction team or a specialist registrar doctor (grade ST3 or above). Prostin should only be used following Propess® when an artificial rupture of membranes is not possible.
- An attempt with Foley catheter balloon induction if this has not already been carried out.
- Induction could be repeated after an interval agreed by the birthing woman or person and the clinician (usually 24-48 hours following completion of first cycle).
- The first repeat dose of the cycle may be administered by a midwife. If a second is required, a vaginal examination should be performed by the senior obstetrician.
- Caesarean section

## 2.26 Third stage of labour

The birthing woman or person should be advised that physiological 3rd stage is not recommended. Intramuscular Syntometrine is advised unless otherwise contra-indicated.

## 3. Education and Training

Insertion of the balloon catheter can be undertaken by doctors and midwives who have been LCAT certified or being supervised by a doctor or midwife who has been LCAT certified

## 4. Monitoring Compliance

None

## 5. Supporting References


- MBRRACE-UK (2021) Perinatal Mortality Surveillance Report for Births from January to December 2019, MBRRACE-UK Collaboration
- NICE (2021) Inducing Labour, NICE guideline NG207.
- Williams et al (2018) Fetal Growth Surveillance – Current guidelines, practices and challenges, Ultrasound; Sage. Online at:
- https://www.perinatal.org.uk/wwwroot/pdf/nz/Williams_et_al_2018_Fetal_growth_surveillance_Current_guidelines_pr.pdf
- Intrapartum Care UHL Obstetric Guideline
- Fetal Monitoring in Labour UHL Obstetric Guideline
- Consent to Examination or Treatment UHL Policy
- Chaperone UHL Policy
- Vaginal Birth After Caesarean Section UHL Obstetric Guideline.
- NHS England Patient Safety Team NRLS/LFPSE analysis summary PSI 165.2024 ‘The use of Propess for the induction of Labour’
- RCOG (2013) Induction of Labour at Term in Older Mothers.
- Professor Redman (2022) Use of the Dawes Redman computerised CTG analysis system (DR-CTG) In labour, latent labour or induction of labour or after a ‘Stretch and Sweep’ procedure


## 6. Key Words

Artificial rupture of membranes, Foley Balloon Catheter, Propess, Prostaglandin, Prostin, Spontaneous rupture of membranes

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**The Trust recognises the diversity of the local community it serves. Our aim therefore is to provide a safe environment free from discrimination and treat all individuals fairly with dignity and appropriately according to their needs.**
**As part of its development, this policy and its impact on equality have been reviewed and for safety reasons, not all people are considered suitable for outpatient IOL. The Trust advocates the use of translation services and individualised care planning to support the provision of outpatient IOL to all service users that do not have a clinical contraindication to outpatient IOL.**

## EDI Statement

We are fully committed to being an inclusive employer and oppose all forms of unlawful or unfair discrimination, bullying, harassment and victimisation.

It is our legal and moral duty to provide equity in employment and service delivery to all and to prevent and act upon any forms of discrimination to all people of protected characteristic: Age, Disability (physical, mental and long-term health conditions), Sex, Gender reassignment, Marriage and Civil Partnership, Sexual orientation, Pregnancy and Maternity, Race (including nationality, ethnicity and colour), Religion or Belief, and beyond.

We are also committed to the principles in respect of social deprivation and health inequalities.

Our aim is to create an environment where all staff are able to contribute, develop and progress based on their ability, competence and performance. We recognise that some staff may require specific initiatives and/or assistance to progress and develop within the organisation.

We are also committed to delivering services that ensure our patients are cared for, comfortable and as far as possible meet their individual needs.

| **Contact and review details** | | | |
|---|---|---|---|
| **Guideline Lead (Name and Title)**<br>Chandrima Roy Consultant Obstetrician<br>Lara Harrison – Quality Improvement Lead Midwife | | | **Executive Lead**<br>Chief Nurse |
| **Details of Changes made during review:** | | | |
| **Date** | **Issue Number** | **Reviewed By** | **Description Of Changes (If Any)** |
| **May 2022** | **7** | Helen Fakoya - Consultant Midwife<br>Chandrima Roy - Consultant Obstetrician | Induction of labour booking process has changed<br>Now includes IOL pathway co-ordinator<br>Urgent induction of labour requests will continue to go through delivery suite<br>Additional information to support women and advise staff in cases of declined IOL.<br>Information to support decision making with suspected big babies added<br>Guidance provided on monitoring and labour care for women who have received one intervention only and would have met criteria for IIA and midwifery led care prior to the intervention and no further risk factors identified.<br>Adapted C/S maternal request flow chart to incorporate failed IOL<br>Clarified the minimum monitoring required wen remaining in hospital and when to perform CTG.<br>Added monitoring specific to Prostin<br>Removed pre-labour rupture of membranes advice – now in separate guidance |
| **Jan 2023** | **8** | Helen Fakoya – Consultant Midwife | Induction of labour should be offered to all women from 41+0 weeks and be advised to have IOL by 40+12 weeks. Included comparison data from NICE 2021 IOL guideline. Added info to discuss in regards to delays in IOL.<br>Removal of 'latent phase more than 20 hours' and changed to 'if woman requests intervention'.<br>Updated table in appendix 6 regarding indications for IOL. |

| | | | |
|---|---|---|---|
| **Sep 2024** | **9** | Chandrima Roy - Consultant Obstetrician<br>Lara Harrison – Quality Improvement Lead Midwife | Changes in relation to use of Propess; remove after 24 hours, detailed guidance regarding use in pre-term and VBAC<br>Added use of computerised CTG prior to commencement of induction of labour in the absence of uterine tightening's<br>Update to outpatient IOL criteria for women who don't speak English<br>New IOL referral and booking process<br>Information about plans for when an induction of labour is declined by the woman or birthing person<br>New midwifery-led IOL criteria<br>Updated patient information resources<br>New guidance regarding frequency of membrane sweeps<br>Updated safe gestational range criteria for IOL indications<br>Guidance to support plans when rupture of membranes occurs following insertion of a balloon catheter |
| **November 2024** | **10** | F Hills Consultant Obstetrician<br>H Maybury Consultant Obstetrician<br>L Taylor Clinical risk & quality standards midwife | Added that Propess must be prescribed by a consultant in case of VBAC<br>IOL in cases of Grandmultiparity must be counselled by a consultant obstetrician.<br>Amended timing of when to offer IOL in cases of GDM<br>Outpatient IOL with Propess- added use of translation services to facilitate the provision of OP propess IOL in those whose first language isn't English<br>Removed – 'live within 30 minutes of the hospital' removed as one of the criteria that must be met for outpatient IOL.<br>Updated inclusivity terminology |
| **March 2025** | **11** | A Sharpe – Specialist midwife | Further doses of Propess® are not licensed and should only be used in exceptional circumstances. If the Propess® falls out or is removed for any reason, it must not be reinserted. |

## Appendix 1; Oxytocin infusion

**OXYTOCIN INFUSION REGIME**

**Oxytocin 10iU mixed with 0.9% Sodium Chloride to a volume of 50 ml. Administer via syringe pump.**

**(use lowest dose possible titrating to 3- 4/10 contractions)**

| TIME AFTER STARTING | INFUSION RATE ML/HR | OXYTOCIN DOSE mU/min |
|---|---|---|
| 0 min | 0.3 ml | 1 |
| 30 min | 0.6ml | 2 |
| 60 min | 1.2ml | 4 |
| 90 min | 2.4ml | 8 |
| 120 min | 3.6ml | 12 |
| 150 min | 4.8ml | 16 |
| 180 min | 6.0ml | 20 |
| ONLY USE DOSES BELOW AFTER REVIEW BY SENIOR REGISTRAR OR CONSULTANT where desired contraction frequency not achieved | | |
| 210 min | 7.2ml | 24 |
| 240 min | 8.4ml | 28 |

Increase Oxytocin every 30 min in the first stage until contractions 3- 4:10 Increase every 15 minutes if Oxytocin commenced in the second stage of labour providing the fetal heart rate is satisfactory.
Monitor fetal wellbeing by continuous electronic fetal monitoring

## Appendix 2; Commencement of oxytocin form

| | |
|---|---|
| **Name:**…….. | Gestation: /40<br>Parity:<br>Previous C/S? YES/NO |

**Unit No :**……

**DoB:**……..

Please complete this assessment chart prior to starting an Oxytocin infusion in the first or second stage of labour. It must be completed by ST3 or above.
**PLEASE PRINT IN BLACK INK.**

| | |
|---|---|
| **Indication for Oxytocin:**<br><br>……<br><br>Decision made by: ……(print) | **Prescribed by**:……(print)<br><br>**Date prescribed**:……<br><br>**Time prescribed**:…… |
| **Maternal assessment BEFORE commencing Oxytocin:**<br><br>Maternal pulse: bpm<br><br>Maternal BP: mm Hg<br><br>Frequency of contractions: /10 minutes<br><br>Duration of contractions: sec<br><br>Cervical dilatation: cm<br><br>**Maternal assessment AFTER commencing Oxytocin:**<br>Please document routine maternal assessment on partogram and / or case notes. | **Fetal assessment BEFORE commencing Oxytocin:**<br><br>Fetal heart rate: bpm<br><br>Fetal lie: ……<br><br>Fetal presentation: ……<br><br>**Fetal assessment AFTER commencing Oxytocin:**<br>Please enter assessments of CTG in case notes. |

| **When to Stop Oxytocin:** | |
|---|---|
| **Uterine hyperstmulation(contractions 5 or more in 10 minutes** | Reduce Oxytocin and review by SpR or above |
| **Non - reassuring fetal heart rate** | Review by SpR or above |
| **Abnormal fetal heart rate** | Stop Oxytocin and full assessment by SpR or above before Oxytocin is restarted |
| **Possible secondary arrest** | Stop Oxytocin and consider delivery by Caesarean Section |

Action plan:

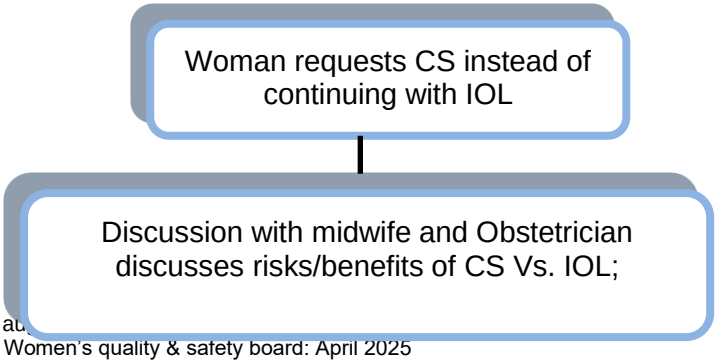
Signature of Consultant/SpR completing assessment form:…… Date and time:……
Name:……

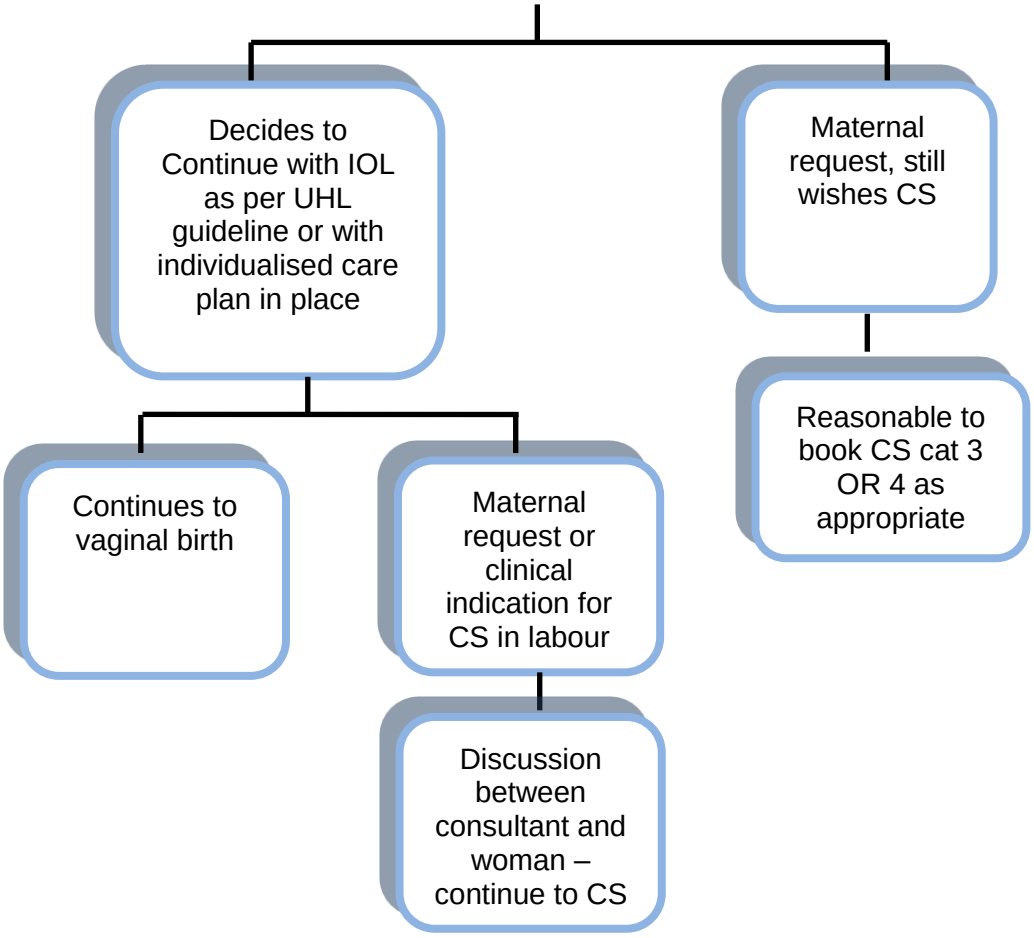
## Appendix 3; Checklist for birthing women or people going home with Propess®

| | Achieved | Signature |
|---|---|---|
| Booked under midwife led care and no risk factors have been identified | | |

| | | |
|---|---|---|
| Between 41 weeks and 40+13 weeks gestation | | |
| Above 18 years of age | | |
| Has a BMI of 35 or below | | |
| There are no language barriers and she has a good understanding of English | | |
| Para 3 or less and has no history of precipitate labour | | |
| Has not had any previous uterine surgery | | |
| Lives within 30 minutes (average travel time) of the hospital, has transport and access to a mobile 'phone | | |
| Attends with an adult and must remain in the company of an adult. | | |
| No current safeguarding alerts | | |
| Verbal Consent | | |
| Risk assessment | | |
| Presentation Scan | | |
| Maternal Observations ( meows of 0, 1 or more will Require obstetric review) | | |
| Abdominal Palpation | | |
| CTG performed prior to examination for 30 minutes | | |
| Vaginal Examination ( Bishop score of 6 or less) | | |
| CTG following insertion of Propess for 30-60 minutes | | |

## Appendix 4; Maternal Request CS instead of continuing with Induction of Labour






Where an ARM has been performed or oxytocin is administered and a caesarean section is requested for maternal choice, the caesarean section should be graded as a category 2.

## Appendix 5; Patient information leaflets

### Induction of labour

https://yourhealth.leicestershospitals.nhs.uk/library/women-s-children-s/obstetrics/269-induction-of-labour-1

### Balloon catheter induction of labour

https://yourhealth.leicestershospitals.nhs.uk/library/women-s-children-s/obstetrics/268-foley-balloon-catheter-induction-of-labour

**What is induction of labour? – Website information**

What is an induction of labour? Your Maternity Service | Health for Under 5s

## Appendix 6: Indications for Induction of Labour

| Indication for IOL | Aim IOL for gestation | Evidence | Auditable standard |
|---|---|---|---|
| Post-dates | 40+7 unless woman requests 40+12 | NICE IOL guideline https://www.nice.org.uk/guidance/ng207/resources/inducing-labour-pdf-66143719773637 | All deliveries >42 weeks |
| Spontaneous Rupture of Membranes >37 weeks | Offer immediate but by 24 hours | NICE IOL https://www.nice.org.uk/guidance/ng207/resources/inducing-labour-pdf-66143719773637 | Management of women with SROM |
| Altered fetal movements | 39+0 | AFFIRM<br>https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(18)31543-5/fulltext<br><br>See appendix A | Women with 2 episodes of RFM delivering >40 weeks gestation<br>Women with RFM presenting after 40 weeks |
| Large baby | Controversial. But not before EDD (as agreed in the consultant meeting) | Cochrane review<br>https://pregnancy.cochrane.org/sites/pregnancy.cochrane.org/files/public/uploads/induction-for-macrosomia%20%28screen%29.pdf<br><br>Please use the attached infographics for counselling | Shoulder dystocia<br>Bony injuries |
| Small Baby<br><10th centile<br><br><3rd centile | 39 weeks<br><br>37 weeks | https://www.england.nhs.uk/wp-content/uploads/2019/07/saving-babies-lives-care-bundle-version-two-v5.pdf<br><br>RCOG 31 https://www.rcog.org.uk/en/guidelines-research-services/guidelines/gtg31/ | Babies <10th centile born >40 weeks<br><br>Babies <3rd centile born >38 weeks |
| Mothers ≥ 40 years of age at booking | 39+4 | https://www.rcog.org.uk/globalassets/documents/guidelines/scientific-impact-papers/sip_34.pdf | Mothers aged over 40 at booking delivering >40 weeks |
| Hypertensive disorders of pregnancy:<br>Pre-existing/gestational non-severe (BP < 160/110) hypertension with no complications<br><br>Pre-eclampsia | 39 weeks<br><br>37 weeks – within 24-48 hours | https://www.nice.org.uk/guidance/ng133/resources/hypertension-in-pregnancy-diagnosis-and-management-pdf-66141717671365<br><br>All plans should individualised and made by a consultant obstetrician as most can have co-existing features. | Hypertensive women delivering >40 weeks<br><br>Women with PET delivering >37weeks/24- |

| | | | |
|---|---|---|---|
| Gestational proteinuria | 38 -39 weeks | Please see - Hypertension in Pregnancy UHL Obstetric Guideline | 48 hours |
| Diabetes in pregnancy<br><br>Type 1 / 2 DM with no maternal or fetal complications<br><br>Type 1 /2DM with maternal or fetal Complications<br><br>GDM on diet control<br><br>GDM on medication<br><br>GDM with maternal or fetal complications | <br><br>37 – 38+6 weeks<br><br>Individualised<br><br>40 - 40+5<br><br>39 – 39+6 weeks<br><br>Individualised | All plans should individualised and made by a consultant obstetrician as most can have co-existing features. | <br><br>Type 1 /2 DM delivering >39 weeks<br><br>GDM delivering >41 weeks |
| Mothers who have had IVF (only) | 39 weeks | There is limited evidence to support IOL in women having forms of Assisted Reproductive Technology (ART) except IVF<br><br>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 Gynecology 2006;195:764–70.<br><br>Helmerhorst FM, Perquin DA, Donker D, Keirse MJ. Perinatal outcome of singletons and twins after assisted conception: a systematic review of controlled studies. BMJ 2004;328:261. | Women who have had IVF delivering >40 weeks |
| Obstetric cholestasis | Depending on highest bile acids:<br><br><40 - from 40 weeks<br><br>40-100 – by 37+0- | Current UHL / RCOG guidance is older than the publication of the Ovadia (2019) paper. This is the most robust evidence for perinatal outcomes in diagnoses of OC<br><br>https://pubmed.ncbi.nlm.nih.gov/30773280/ | Women with BA :<br>>100 delivering >37 weeks<br><br>>40 delivering |

| | | | |
|---|---|---|---|
| | 38+6 weeks<br><br>>100 – 35-36 weeks | If IOL is considered earlier than the gestations on the left, please consult a maternal medicine subspecialist | >39 weeks<br><br><40 delivering by 41 weeks |
| Multiple pregnancies<br><br>MCDA twins (uncomplicated)<br>DCDA Twins (uncomplicated) | <br><br>36 weeks<br><br>37 weeks | NICE multiple pregnancy guideline https://www.nice.org.uk/Guidance/QS46<br><br>RCOG Management of Monochorionic pregnancies https://obgyn.onlinelibrary.wiley.com/doi/full/10.1111/1471-0528.14188 | <br><br>MCDA twins delivering >37 weeks<br>DCDA twins delivering >38 weeks |

## Appendix 7: Midwifery-led IOL Criteria