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## TRUST CLINICAL GUIDELINE

### Induction and augmentation of labour and use of oxytocin

#### Overview

The purpose of this guideline is to provide good practice evidence for staff in the care of pregnant women and birthing people undergoing induction and / or augmentation of labour.

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<b>Related Documents</b>	<p><b>SRH &amp; WH:</b> Intrauterine Death Including Induction for Fetal Abnormality, Birth After Caesarean Section, Preterm Labour and Birth (including Preterm Pre-labour Rupture of Membranes), Caesarean Birth, Management of Women and Neonates with Risk Factors for Neonatal Sepsis (including Group B Streptococcus)</p> <p><b>PRH &amp; RSCH:</b> Pregnancy loss &gt;14 weeks, Vaginal birth after caesarean section, Preterm labour, Pre-term pre-labour rupture of membranes, Caesarean birth, Infections in pregnancy.</p> <p><b>UH Sussex:</b> <a href="#">Reduced fetal movements</a>, <a href="#">Care in labour</a>, Hypertensive disorders in pregnancy, <a href="#">Diabetes in Pregnancy</a>, <a href="#">Pre-labour Rupture of Membranes</a>, <a href="#">Fetal Monitoring ANTENATAL</a>, <a href="#">Fetal Monitoring INTRAPARTUM</a></p>

<b>Standards</b>	<a href="#">Care Quality Commission Fundamental Standards (2017)</a> , <a href="#">Overview   Inducing labour   Guidance   NICE</a> , <a href="#">NICE Intrapartum care for healthy women and babies CG190</a> , <a href="#">NICE Intrapartum care for women with existing medical conditions or obstetric complications and their babies NG121 (2019)</a> , <a href="#">NICE Insertion of a double balloon catheter for induction of labour in pregnant women without previous caesarean section (2015)</a>
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## CLINICAL GUIDELINE

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& use of oxytocin v1.0

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**University Hospitals Sussex**

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# Induction and augmentation of labour and use of oxytocin

## 1.0 Introduction

This guideline aims to:

- Provide clear evidence-based guidance for midwives and obstetricians with regard to indications for induction of labour and the process for induction in a variety of clinical situations.
- Provide clear guidance on the process for augmentation of labour in the first and second stage of labour.
- Ensure the best possible outcome for the mother or birthing parent and baby.

Induced labour may be recommended in circumstances when it appears that the benefits outweigh the risks for the mother or birthing person and baby of continuing the pregnancy, but with the aim of still enabling a vaginal birth. Induction of labour should be offered based upon Trust or National guidance. If Induction of Labour is offered for other indications, the offer should be made after agreement with the consultant. Population studies indicate that the risk of stillbirth increases from 1 per 3000 ongoing pregnancies at 37 weeks to 3 per 3000 ongoing pregnancies at 42 weeks and to 6 per 3000 ongoing pregnancies at 43 weeks.

[NHS Maternity Statistics, England - 2022-23 - NHS Digital](#) showed that 33% of pregnant women and birthing people in England had their labours induced. UHSussex hospitals data has been comparable in recent years. National statistics including those of UHSussex can be found here:

[Microsoft Power BI](#)

## 2.0 Definitions and abbreviations used in this document

<b>ARM</b> Artificial rupture of membranes	<b>BAC</b> Birth after Caesarean
<b>CRB</b> Cervical Ripening Balloon	<b>CTG</b> Cardiotocograph
<b>FSE</b> Fetal scalp electrode	<b>FHR</b> Fetal heart rate
<b>IOL</b> Induction of labour	<b>IM</b> Intramuscular
<b>PPROM</b> Preterm pre-labour rupture of membranes	<b>IV</b> Intravenous
<b>QDS</b> Four times per day	<b>PROM</b> Prolonged Rupture of Membranes
<b>UH Sussex</b> University Hospitals Sussex	<b>SROM</b> Spontaneous rupture of membranes
<b>VTE</b> Venous Thromboembolism	<b>VBAC</b> Vaginal birth after caesarean

### 3.0 Duties and responsibilities

All staff working in the Trust	<ul style="list-style-type: none"> <li>To access, read, understand and follow this guideline.</li> <li>To use their professional judgement in application of this guideline.</li> </ul>
Managers	<ul style="list-style-type: none"> <li>To ensure the guideline is reviewed three yearly and aligns with Trust and National recommendations.</li> <li>To ensure the guideline is accessible to all relevant staff and is disseminated widely.</li> </ul>

### 4.0 Information and decision making

Discuss preferences about mode of birth with pregnant women and birthing people early on in their pregnancy. Take into account their individual circumstances, and discuss the options for birth which can include:

- Expectant management or
- Induction of labour or
- Planned caesarean birth

[\(MBRRACE-UK 2020\).](#)

Confirm a pregnant woman or birthing person's preferences for birth at antenatal visits towards the end of pregnancy, as these may have changed since earlier discussions. At 38 weeks pregnant women and birthing people should be informed that most pregnant women and birthing people will go into labour spontaneously by 42 weeks.

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

- The reasons for induction being offered.
- When, where, and how induction can be carried out exceptionally this may be subject to change due to acuity.
- The risks and benefits of IOL in specific circumstances and the proposed induction methods.
- The alternative options if the pregnant woman or birthing person chooses not to have an IOL or decided at a later stage that they no longer wish to proceed with the induction procedure, with clear documentation as to why the pregnant woman or birthing person declines. Senior review to agree on going surveillance or plan which may include a caesarean birth.
- That induction may not be successful and what the pregnant woman or birthing person's options would be, including the option to pause and restart the IOL or a caesarean birth.
- Pregnant women and birthing people should be informed when their IOL is booked that there is a possibility that their induction may not be undertaken on the day offered

depending on the unit activity (See patient information regarding delays in IOL NHS South East England: [Induction of labour - Welcome](#)).

Other points to discuss with the woman or birthing person regarding having labour induced:

- Vaginal examinations are performed to assess the cervix and are needed before and during induction, to determine the best method of induction and to monitor progress.
- IOL success rates are based on inductions that follow protocols. If someone opts to only have certain elements of an IOL it becomes impossible to predict likelihood of success and most likely will have a higher chance of an unsuccessful IOL (eg if woman or birthing person chooses for instance prostaglandin only, no oxytocin).
- 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.
- 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 which would need to be managed either through either removing propess, CRB, medications such as Terbutaline or expediting the birth eg instrumental or caesarean birth.
- The arrangements for support and pain relief as an induced labour may be more painful than a spontaneous labour. This should include all forms of analgesia and a discussion of the risks and benefits of each.
- Their hospital stay may be longer than with a spontaneous labour.

All involved clinical staff need to invite the pregnant woman or birthing person to ask questions and involve them in any decision making. When offering induction of labour:

- Give pregnant women and birthing people time to discuss this information with others (for example, their partners, birthing companion or family) if they wish to do so before making a decision.
- Ensure pregnant women and birthing people have the opportunity to ask questions, and time to think about their options.
- Encourage women and birthing people to look at other information (for example encouraging them to look at information on the [NHS.uk website](#) or [Sussex LMNS: Inducing Labour](#) )
- Recognise that pregnant women and birthing people can decide to proceed with, delay, decline or stop an induction. Respect the pregnant woman or birthing person's autonomy when making their decision, even if healthcare professionals disagree with it, and do not allow personal views to influence the care they are given. Record the woman or birthing person's decision on the BadgerNet Maternity.

If IOL is being offered in the early term period between 37 and 38+6 weeks, the [Early Term birth: 'Every week counts'](#) patient information leaflet should be provided. This includes further information about the impact of elective early term birth.

Please refer to local processes for how IOL is booked.

## 5.0 Delays in IOL

- The decision to delay starting any induction should be made jointly between the labour ward coordinator and the obstetric consultant in line with escalation guidance. All ongoing inductions should be reviewed and prioritised by clinical need by the labour ward coordinator and obstetric registrar, escalating to the consultant on call where necessary.
- If a decision is made to delay an IOL, a plan should be made by the obstetric consultant and labour ward coordinator. This should include a future date/time for induction or further follow up or contact by telephone or in person. Safety net advice should be given for when to contact Triage if the pregnant woman or birthing person is not admitted. This should be documented in Badgernet and added to the clinical actions and management actions on BirthRate+ (acuity tool) as per national and SE guidance.
- Significant delays should be reported through Datix and highlighted on the acuity tool.
- UH Sussex adheres to the standards in NHS England South East *IOL Shared Principles Framework*, however the appendices in this document are not to be used as electronic record keeping is in use at UH Sussex. The NHS South East England induction of labour and transfers patient information leaflet: [Induction of labour - Welcome](#) which explains the possibility of delays and transfers should be provided.
- The SE IOL Shared Principles Framework requires that the following information is recorded:
  - Delayed >2 hours from point of admission (from home or ward)
  - Delayed >6 hours from decision for ARM to transfer to DS for 1:1 care
  - Delayed >6 hours from decision for oxytocin augmentation to transfer to DS room for 1:1 care
  - Who have SROM and planned IOL is delayed
  - Delayed admission for IOL from day of planned admission (delays should include any accrued work and be accumulated at each submission)
- The National SITREP is in use to support trusts to capture data on delays to IOL, which should be escalated as a red flag at 12 hours of delay.
- Delays to care should also be subject to audit review and incident reporting/investigation locally to establish themes and QI. Good practice remains that birth rate acuity is captured in real time, and escalations are acted upon as required.
- The IOL Red, Amber, Green (RAG) Rating tool should be used to aid prioritisation of the planned induction of labour cases. (See [Appendix 7](#)).



## 6.0 Specific circumstances

Induction of Labour should be offered based upon Trust or National guidance. If induction of labour is offered for other indications, the offer should be made after agreement with a consultant.

### 6.1 Pregnancy lasting longer than 41 weeks

Explain to pregnant women and birthing people that labour usually starts naturally before 42+0 weeks.

Gestational age at which labour started, as a proportion of labours which started spontaneously:

Gestational age (weeks)	Proportion of spontaneous labours that started at this gestational age	Cumulative proportion of spontaneous labours that started by this gestational age
31 weeks and under	2.40%	2.40%
32+0 to 36+6 weeks	5.30%	7.70%
37+0 to 37+6 weeks	5.10%	12.80%
38+0 to 38+6 weeks	12.10%	24.90%
39+0 to 39+6 weeks	25.40%	50.30%
40+0 to 40+6 weeks	32.50%	82.80%
41+0 to 41+6 weeks	16.20%	99%
42+0 weeks and over	0.90%	100%

Table 1: [NHS Hospital Episode Statistics / Maternity Services Data 2019-20](#)

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

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

Discuss with pregnant women and birthing people 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.

Outcomes that may be more likely with induction at 40-42 weeks (giving birth for the first time):

Outcomes	Induction of labour at 39 weeks	Induction of labour at 40-42 weeks	Risk difference
Caesarean birth	About 1,860 per 10,000 women would be expected to have a caesarean birth (so 8,140 would not)	About 2,220 per 10,000 women would be expected to have a caesarean birth (so 7,780 would not)	About 360 more women per 10,000 whose labour was induced at 40-42 weeks would be expected to have a caesarean birth; so for 9,640 per 10,000 the outcome would be the same irrespective of the timing of induction
NICU admission	About 1,170 per 10,000 babies would be expected to be admitted to NICU (so 8,830 would not)	About 1,300 per 10,000 babies would be expected to be admitted to NICU (so 8,700 would not)	About 130 more babies per 10,000 whose mothers' birth was induced at 40-42 weeks would be expected to be admitted to NICU; so for 9,870 the outcome would be the same irrespective of the timing of induction

Outcomes that may be more likely with induction at 42 weeks (mixed parity):

Outcomes	Induction of labour at 41 weeks	Induction of labour 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 be expected to 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 babies per 10,000 the outcome would be the same irrespective of the timing of induction
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 expected to be admitted to NICU; so for about 9,860 babies per 10,000 the outcome would be the same irrespective of the timing of induction

Be aware that, according to the 2020 MBRRACE-UK report on perinatal mortality, women and birthing 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.

- Compared with white babies (34/10,000), the stillbirth rate is more than twice as high in black babies (74/10,000), around 50% higher in Asian babies (53/10,000)
- The stillbirth rate increases according to the level of deprivation in the area the mother lives in, 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).

If a pregnant woman or birthing person chooses not to have induction of labour, discuss their options from this point on with them (for example, expectant management or caesarean birth) and document an agreed care plan.

Offer opportunity to discuss their options for labour with senior obstetrician or senior midwife and offer follow up appointment.

Discuss with pregnant women and birthing person who choose not to have their labour induced if they wish to have additional fetal monitoring from 42 weeks. Advise them that:

- Monitoring only gives a snapshot of the current situation, and cannot predict reliably any changes after monitoring ends, but provides information on how their baby is at the moment and so may help them make a decision on options for birth.
- Adverse effects on the baby (including stillbirth), and when these events might happen, cannot be predicted reliably or prevented even with monitoring.
- Offer fetal monitoring with twice-weekly computerised cardiotocography and weekly ultrasound estimation of maximum amniotic pool depth.

Offer women and birthing people 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.

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

If a pregnant woman or birthing person declines to have induction of labour, their decision should be respected. Healthcare professionals should document the pregnant woman or birthing person's decision on BadgerNet Maternity.

## **6.2 Preterm (prior to 37 weeks) pre-labour rupture of membranes**

See maternity guidance on preterm care.

## **6.3 Pre-labour rupture of membranes at 37 weeks or over**

See [ROM at Term guideline](#)

## **6.4 Previous caesarean birth**

Maternity guidance on birth after caesarean birth should be followed. Use of a Cooks Ripening Balloon can be considered. (See [section 9.0](#))

Discuss methods of induction with a pregnant woman or birthing person who has had a previous caesarean birth, so that they can make an informed decision about the most appropriate choice:

- Induction of labour can lead to an increased risk of emergency caesarean birth.
- Induction of labour can lead to a risk of uterine rupture.
- The suitability of mechanical methods of induction, including the risk of infection.
- The marketing authorisations for dinoprostone and misoprostol contraindicate their use for inducing labour in women or birthing people with a uterine scar, because they increase the risk of uterine rupture.
- The risks and consequences of caesarean birth, including both short- and long-term morbidity.

If birth needs to be expedited, offer women and birthing people who have had a previous caesarean birth a choice of:

- Induction of labour, or
- Planned caesarean birth.

Advise women and birthing people that they can choose not to have induction of labour or caesarean birth, even when it may benefit their or their baby's health.

## **6.5 Maternal or birthing person request**

Induction of labour should not routinely be offered on maternal or birthing person request alone prior to 39 weeks gestation. This decision must be undertaken by, or following consultation with, a senior obstetrician.

Pregnant women and birthing people requesting IOL for non-medical reasons should be seen in the hospital Antenatal Clinic to fully discuss the risks and benefits of their request, taking into account their circumstances and preferences.

## **6.6 Breech**

Induction of labour is not recommended if a pregnant woman or birthing person's baby is in the breech position.

## **6.7 Fetal growth restriction (FGR)**

Do not induce labour if there is fetal growth restriction with confirmed fetal compromise. Offer caesarean birth instead. See maternity guidance for [FGR/SGA](#).

## **6.8 Suspected fetal macrosomia**

If fetal macrosomia is suspected (without diabetes), defined as an estimated fetal weight above the 95th percentile, at or after 36 weeks of pregnancy, discuss with the pregnant woman or birthing person the options for birth are expectant management, induction of labour or 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 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 2 options.
- They will also need to consider the impact of induction on their birth experience and on their baby.

[Risks and benefits of induction of labour compared to expectant management for suspected fetal macrosomia NICE 2021](#)

Outcome	Induction of labour	Expectant management	Risk difference
Shoulder dystocia	About 410 babies per 10,000 would be expected to have a shoulder dystocia (so 9,590 would not)	About 680 babies per 10,000 would be expected to have a shoulder dystocia (so 9,320 would not)	About 270 more babies per 10,000 whose mother's birth was managed expectantly would be expected to have a shoulder dystocia; so for 9,730 the outcome would be the same irrespective of the management strategy
Third or fourth degree perineal tears	About 260 per 10,000 women would be expected to have third or fourth degree tears (so 9,740 would not)	About 69 per 10,000 women would be expected to have third or fourth degree tears (so 9,931 would not)	About 191 women whose labour was induced would be expected to have third or fourth degree tears; so for 9,809 the outcome would be the same irrespective of the management strategy

([NICE 2021](#))

For guidance on suspected fetal macrosomia in women and birthing people with pre-existing or gestational diabetes see Maternity guidance on diabetes in pregnancy.

## 6.9 History of precipitate labour

Do not routinely offer induction of labour to pregnant women and birthing people with a history of precipitate labour to avoid a birth unattended by healthcare professionals.

However, this can be considered and discussed with an obstetrician particularly if the previous precipitate labour resulted in trauma or a poor outcome.

### 6.10 Intrauterine fetal death

Where intrauterine fetal death has been confirmed, care should proceed in accordance with the Maternity guidance for intrauterine fetal death. See Maternity guidance of intrauterine fetal loss and miscarriage.

### 6.11 Obesity

Elective induction of labour at term in pregnant women and birthing people with a BMI 30 or more may reduce the chance of caesarean birth without increasing the risk of adverse outcomes; the option of induction should be discussed with each pregnant woman or birthing person on an individual basis as part of a holistic review. [RCOG Green-top Guideline No. 72 \(2018\)](#)

### 6.12 Maternal age

The incidence of stillbirth at term in women and birthing people is low. It is higher in women and birthing people of advanced maternal or birthing person age. This at 39–40 weeks of gestation equates to 2 in 1000 for women and birthing people  $\geq 40$  years of age compared to 1 in 1000 for women and birthing people  $< 35$  years old. Women and birthing people  $\geq 40$  years of age having a similar stillbirth risk at 39 weeks of gestation to women and birthing people in their mid 20s at 41 weeks of gestation, at which stage the consensus is that induction of labour should be offered to prevent late stillbirth. ([Induction of Labour at Term in Older Mothers Scientific Impact Paper No. 34](#) February 2013)

## 7.0 Movement and positioning during induction of labour

Freedom of movement during labour is beneficial to support the physiology of labour and birth. Women and birthing people who choose to be mobile during their labour and birth should be supported to do so. Telemetry should be considered if CEFM is recommended. See [Care in labour](#) guideline for information.

## 8.0 Methods of induction of labour

The following methods for inducing labour are offered:

- Membrane sweep
- Cervical balloon catheter for cervical ripening
- Dinoprostone vaginal PGE2 (Prostin® for use where there are ruptured membranes / Propess® for use where membranes are intact or higher risk of hyperstimulation - see below).
- Artificial rupture of membranes
- Oxytocin IV infusion



The risks and benefits of different methods to induce labour should be discussed with the woman or birthing person. Include that:

- Dinoprostone vaginal PGE2 (Prostin®/Propess®) can cause hyperstimulation (see NICE [Appendix C: Risks of hyperstimulation associated with different pharmacological methods of inducing labour](#)).
- When using pharmacological methods of induction, uterine activity and fetal condition must be monitored at least twice a day or more frequently as per personalised plan.
- If hyperstimulation does occur, the induction treatment will be stopped by giving no further medication, or by removal of vaginally administered products when possible. Tocolysis (eg Terbutaline) may also be considered to help relax the uterus.
- There are differences in the ease with which different vaginal products can be removed, for example, dinoprostone controlled-release vaginal delivery systems (Propess®) can be more easily removed than gel or vaginal tablets (Prostin®).
- Hyperstimulation can be treated with tocolysis, but hyperstimulation caused by misoprostol may be more difficult to reverse. Misoprostol is not currently recommended for routine use in UH Sussex.
- Mechanical methods are less likely to cause hyperstimulation than pharmacological methods.

Please see [Appendix 1](#) for IOL flowchart.

## 9.0 Membrane sweep

Pregnant women and birthing people aiming for a vaginal birth should be offered a vaginal examination for membrane sweeping from 39 weeks, additional sweeps may be offered if labour does not start spontaneously following the first sweep. Sweeps can be done in the community or hospital setting by midwives or obstetricians.

Women and birthing people should be informed:

- Membrane sweeping involves the examining finger passing through the cervix to rotate against the wall of the uterus, to separate the chorionic membrane from the decidua of the uterus. If the cervix will not admit a finger, massaging around the cervix in the vaginal fornices may achieve a similar effect.
- Membrane sweeping might make it more likely that labour will start without the need for additional pharmacological or mechanical methods of induction. Without membrane sweeping, 598 women in 1000 will end up in spontaneous labour. With membrane sweeping, 699 women and birthing people in 1000 will end up in spontaneous labour. (Finucane, 2020).
- That pain, discomfort and vaginal bleeding are possible from the procedure.

Before performing a sweep, the midwife/doctor should ensure maternal and fetal wellbeing by undertaking routine antenatal assessment, including palpation to ensure that the fetus is in a

cephalic position and the fetal head is engaged, auscultating the fetal heart and confirming no evidence of a low-lying placenta.

An obstetrician may make a plan with pregnant women and birthing people for sweeps before 39 weeks if medically indicated; this should be fully documented on BadgerNet Maternity. This needs to be decided on an individual basis.

## 10.0 Initial assessment on admission for induction of labour

On attendance at the hospital for induction of labour, a holistic assessment of the woman or birthing person should be performed. This should include:

- Reviewing antenatal notes and confirming gestation from the dating scan.
- Confirm and document the primary reason for induction. If more than one indication, ensure that the most significant reason is documented as the primary reason, and all other reasons are documented as additional reasons.
- Confirm no evidence of a low-lying placenta on previous scans.
- Maternal observations including pulse, respiration rate, blood pressure and temperature.
- Abdominal palpation to establish presentation, lie, and engagement, including the level and stability of the fetal head in the lower part of the uterus at or near the pelvic brim.
- Discussion of fetal movements.
- Assessment of fetal heart rate pattern using computerised CTG. (See [Fetal Monitoring ANTENATAL](#) guideline)
- Confirm the presence or absence of significant uterine contractions (not Braxton-Hicks) using cardiotocography. Be mindful that a toco does not indicate strength or duration of contraction. Factors such as misplacement or maternal position can fail to detect contractions accurately. Manual palpation of contractions should always be performed assessing frequency, strength and resting tone between contractions. The presence of uterine contractions will inform the ongoing plan of care to reduce the risk of hyperstimulation.
- The midwife should ensure that pregnant women and birthing people have a chance to ask questions and that informed consent is gained and documented on BadgerNet Maternity.
- Consider senior obstetric review in the presence of complex risk factors. For pregnant women and birthing people who are assessed as high risk, induction of labour should be obstetrician-led. Any concerns regarding this need to be communicated to the Labour Ward coordinator who will discuss the case with the obstetric registrar or consultant on Labour Ward.
- Women and birthing people who are admitted for induction of labour should have a daily review by a senior obstetrician (ST6 or above).
- A vaginal examination should be performed to assess the Bishop score of the cervix. (See [Appendix 2](#)). During this preliminary vaginal examination, obstetricians and midwives should palpate for umbilical cord presentation and avoid dislodging the baby's head.



- National guidance recommends carrying out an ultrasound scan if there are any concerns about the position of the baby (for example, if it might be in the breech position). At UHSussex a presentation scan is recommended prior to induction of labour.
- Repeated requests for pain relief during the induction process should prompt a holistic assessment by a midwife or obstetrician. This review should evaluate maternal wellbeing, adequacy of pain relief, and possible progression of labour. Such requests may be an early indication of established labour or emerging complications. These requests should not be dismissed or delayed and prompt consideration of 1:1 care on labour ward.

## 11.0 Cervical ripening methods

For pregnant women and birthing people in whom the Bishop Score is assessed as 'favourable' (more than or equal to 6), artificial rupture of membranes, followed by and intravenous oxytocin infusion can be considered as a primary method of inducing labour. (See [section 15.0](#))

For pregnant women and birthing people in whom the Bishop Score is assessed as 6 or less, a cervical ripening method will be offered. The following cervical ripening methods may be offered:

- Cervical balloon catheter (see [appendix 3](#) for application)
- Dinoprostone vaginal E2 (see [appendix 4](#) for administration)
  - Propess® vaginal delivery system
  - Prostin® Tablets
  - Prostin® gel

### 11.1 Cooks Ripening Balloon (CRB)

#### 11.1.1 Situations where the CRB should not be used

- Abnormal lie.
- Previous hysterotomy, classic uterine incision, myomectomy or any other full-thickness upper segment uterine incision (including uterine perforation)
- Pelvic structural abnormality
- Any contraindication to labour induction
- Ruptured membranes

([Cook Medical G19891 - BALLOON, CERVICAL RIPENING](#) accessed 21/02/22)

#### 11.1.2 Further considerations

[Cook Medical G19891 - BALLOON, CERVICAL RIPENING](#) recommends that CRB should not be used in the following circumstances however this may be considered on an individual basis and in discussion with a consultant (this individual plan may be discussed with the obstetric consultant at obstetric handover):

**Reasonable with appropriate counselling:**

- Previous lower segment caesarean birth

**Individual discussion:**

- Multiple gestational pregnancy
- Polyhydramnios
- Severe maternal hypertension.

**Unlikely to be appropriate:**

- Presenting part above the pelvic inlet

## 11.2 Use of cervical ripening methods

- Perform admission assessment from [section 6.0](#).
- Refer to IOL flowchart ([Appendix 1](#)).
- See [Appendix 3](#) for procedure for use of CRB,
- See [Appendix 4](#) for procedure for use of dinoprostone preparations.

## 11.3 Transfer to the antenatal/combined antenatal and postnatal wards

- After cervical ripening methods have been used and cCTG has met criteria, the pregnant woman or birthing person can then be transferred to the antenatal ward.
- They can move around, eat and drink as normal and should be encouraged to be as active as possible.
- The pregnant woman or birthing person should be advised to inform the midwife if they have any concerns, increase in contractions, SROM, vaginal bleeding or decreased fetal movements.

Labour Ward should be informed and transfer arranged if the following occur:

- Labour becomes established (see [Care in labour](#) guideline).
- Evidence of fetal compromise e.g. abnormal antenatal CTG or meconium-stained liquor. In the presence of uterine contractions during IOL, intrapartum classifications should be used.
- Evidence of maternal or birthing person compromise.
- Significant vaginal bleeding.
- Contractions greater than 5 in 10 minutes (that do not improve with conservative measures). However, if the woman or birthing person is not in distress and there are no fetal heart monitoring concerns, 1:1 care on labour ward may not be needed to remove Propess or administer terbutaline. Consider a period of rest and an obstetric review for on-going plan.

Labour Ward should be informed and transfer discussed if the following occur:

- SROM
- Minimal vaginal bleeding
- Decreased fetal movements.

## 11.4 Special circumstances

### 11.4.1 Spontaneous rupture of membranes (SROM) with CRB

If SROM occurs **after** CRB has been inserted it should be removed, observe uterine activity, assess the fetal wellbeing with a CTG and perform a full set of maternal or birthing parent observations (consider if VE indicated as part of these observations). If there are no fetal concerns and uterine activity is insignificant, an IV oxytocin infusion should be commenced as soon as possible after removal of the CRB. If the pregnant woman or birthing person is at home, they should be invited into the unit for assessment.

### 11.4.2 In the event the CRB or dinoprostone (Propess®) falls out

#### In the event dinoprostone (Propess®) falls out

- If at any point the Propess® pessary falls out, is inadvertently pulled out, or is removed in error before the woman is in established labour then the same Propess® can be reinserted provided it has remained clean.
- If the Propess® pessary falls out and becomes contaminated, a new Propess® pessary can be inserted (this will require a new prescription by an obstetrician).
- If reinsertion is required, total pessary time remains 24 hours from insertion of the first pessary.
- If Propess® pessary falls out while the woman or birthing person is at home, they should be invited into the unit for assessment.

#### In the event the CRB falls out

- If at any point the CRB falls out, an assessment should be performed to ARM and IV oxytocin started unless there is obvious uterine activity. If the pregnant woman or birthing person is at home, they should be invited into the unit for assessment.
- **IV oxytocin should not be commenced within 6 hours of dinoprostone insertion.**
- There should be low threshold for a presentation scan following CRB removal/falling out and prior to ARM for all pregnant women and birthing people with risk factors such as: raised BMI, high head, borderline polyhydramnios.

### 11.4.3 Active vaginal bleeding

Active vaginal bleeding requires an urgent obstetric registrar or consultant review, commencement of CTG and immediate removal of the CRB or dinoprostone (Propess®).

If pregnant women and birthing people are at home when the bleeding occurs, they should be invited into the unit for assessment.

#### 11.4.4 Urinary retention with CRB

In some pregnant women and birthing people, the CRB may cause temporary urinary retention due to the presence of the uterine balloon. If this occurs, the uterine balloon can be partially deflated. In the presence of urinary retention, the midwife should discuss the plan of care with a registrar / consultant.

#### 11.4.5 Regular contractions begin after dinoprostone administration

When regular uterine contractions begin after administering dinoprostone, assess fetal wellbeing and uterine contractions with intrapartum cardiotocography interpretation and:

- If the cardiotocogram 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.
  - Remove any vaginal pessaries if possible.
  - Consider terbutaline.
  - Seek obstetric review.

### 12.0 Outpatient Induction (with CRB or Propess®)

The goal of outpatient IOL is to reduce the amount of time spent in hospital before labour begins for women and birthing people who have uncomplicated pregnancies. This is typically offered for IOL post dates (41+0 to 42+0 weeks gestation).

- The benefits and risks of returning home as an outpatient should be discussed with the pregnant woman or birthing person, and their decision respected.
- Pregnant women and birthing people should be made aware that timing of CRB or dinoprostin (Propess®) removal and subsequent planned ARM may be influenced by acuity on labour ward.

#### 12.1 Criteria for outpatient IOL

It is essential that a careful risk profile of women and birthing people eligible for outpatient IOL and is offered to low risk women and birthing people who meet the following criteria:

- Social considerations - the baby of the pregnant woman or birthing person should not be subject to a Child Protection Plan. Discuss plan of care of pregnant women and birthing

people with babies on a Child Protection Plan with the safeguarding team and community midwife.

- Suitable for midwifery led care eg uncomplicated pregnancies past their due date.
- Have the capacity to consent.
- The pregnant woman or birthing person should have birth partner who will stay with them at home on the day.
- The pregnant woman or birthing person should have access to a working phone.
- Cephalic presentation – the fetal head must be engaged in the pelvis.
- The pregnant woman or birthing person must be happy to go home and have transport to return.
- Consideration should be given to the distance from home, and road/weather conditions.
- Normal cardiotocograph (CTG) pre and post insertion of the CRB or dinoprostone (Propess®). Dawes Redman analysis can be used pre and post CRB or dinoprostone (Propess®) insertion as long as there are no palpable or reported uterine activity.

The woman or birthing person's notes must be reviewed by or discussed with the senior obstetrician on-site to check suitability for discharge home following insertion if this possibility has already been discussed at the obstetric handover.

Ensure the pregnant woman or birthing person is aware of both the reasons to contact the hospital and the time to return and ensure labour ward has an accurate contact number for the pregnant woman or birthing person.

Ask pregnant women and birthing people to contact their maternity unit:

- When contractions begin, or
- If there are no contractions, they should be given a time to return to Labour Ward 12 hours (CRB) or 24 hours (Dinoprostone (Propess®)) later and this should be booked through the Labour Ward coordinator, or
- If their membranes rupture, or
- If they develop bleeding, or
- If they have any other concerns, such as reduced or altered fetal movements, excessive pain or uterine contractions, side-effects or loss of the CRB or dinoprostone (Propess®).

The Labour Ward coordinator must take these pregnant women and birthing people into account when they are assessing acuity as they are not suitable for divert in cases of unit escalation. An assessment should be undertaken at 12 hours post CRB or 24 hours post dinoprostone (Propess®). If induction cannot proceed immediately due to acuity there must be a discussion with the co-ordinator and obstetrician, this discussion should be fully documented on BadgerNet Maternity including any phone calls made by the woman or birthing person or by the maternity unit to the woman or birthing person.

### 13.0 Unsuccessful cervical ripening

If cervical ripening is unsuccessful (i.e. unable to ARM following use of cervical ripening methods), discuss this with the woman or birthing person and provide support. Fully reassess the woman and birthing person's condition and the pregnancy in general, and assess fetal wellbeing using antenatal cardiotocography interpretation.

Discuss and agree a plan for further management with the woman or birthing person, including whether they would like further attempts at induction, taking into account the clinical circumstances and their preferences, as well as the acuity of the service.

If induction is unsuccessful, the subsequent management options include:

- Offering a rest period if clinically appropriate and then re-assessing the woman or birthing person.
- Expectant management.
- Further attempts to ripen the cervix.
- Caesarean birth.

Before commencing a second cycle of prostaglandins, a holistic, face-to-face clinical review should be performed by a senior obstetrician. This review should follow national and product manufacturer guidance, and support shared decision making between the pregnant woman or birthing person and the healthcare team. If any element of care falls outside of the product licence or usual Trust guidance, this should be clearly documented and discussed.

### 14.0 Artificial rupture of membranes (ARM)

For pregnant women and birthing people with a Bishop Score of 7 or more, offer induction of labour with amniotomy and an intravenous oxytocin infusion.

Midwives should only perform low risk ARMs. Controlled ARM, for example high head or polyhydramnios, should only be performed by a senior obstetrician. Consider a bedside ultrasound scan prior to ARM in high risk cases or if there are any concerns.

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

- Some women will start to labour after an ARM and not require oxytocin (Selo-Ojeme, 2009; Tan, 2013). A plan should be made with the birthing person on the timing of oxytocin infusion, taking into account their preferences. Usually, this would be 2-4 hours after ARM. Women and birthing people should be encouraged to mobilise during this time to encourage optimal fetal positioning.
- If women and birthing people choose to delay oxytocin over 4 hours, a senior review (e.g. labour ward coordinator or obstetrician (ST3 or above) should be sought.
- If after 2 hours of mobilising following ARM there is no uterine activity, discuss the option of starting oxytocin at this point.

- For women who have had balloon induction oxytocin should be offered within one hour of balloon removal due to risk of the cervix closing. A personalised plan should be made if uterine activity present in multiparous pregnant women and birthing people e.g. mobilising for 1-2 hours before oxytocin infusion.
- Women and birthing people who have had a previous caesarean birth should have an individualised plan made with the consultant obstetrician.

If delaying commencing oxytocin infusion, women and birthing people should be encouraged to mobilise.

If a pregnant woman or birthing person has chosen not to commence an oxytocin infusion after ARM, a discussion should be had with a senior obstetrician and individual plan made as to whether the woman or birthing person stays on labour ward or transfers to the antenatal ward.

## 15.0 IOL for confirmed SROM

On admission, an assessment should be carried out as per [section 10.0](#). If on admission the cervix is unfavourable with a Bishop score of 5 or below, and the mother or birthing parent and fetus are well, Prostin E2 (either gel or tablet preparations) may be offered prior to oxytocin augmentation. IV oxytocin should not be commenced within 6 hours of dinoprostone insertion.

Prior to commencing oxytocin, a vaginal examination should be performed with consent to ensure that forewaters are not present, and an ARM performed if forewaters are intact. Advise women and birthing people that they can have an amniotomy and can choose whether or not to have an oxytocin infusion, or can delay starting this, but that this may mean labour takes longer and the risk of neonatal infection may increase further.

For women and birthing people whose cervix is favourable with a Bishop score of 6 and above, oxytocin infusion should be offered.

## 16.0 Use of intravenous (IV) oxytocin

**IV Oxytocin should be used:**

- When irregular contractions or slow progress in spontaneous labour is diagnosed (see [Care in labour](#) guideline).
- During the induction of labour process (in the absence of membranes).

**IV oxytocin should not be commenced within 6 hours  
of dinoprostone administration**

**IV oxytocin must be prescribed by a senior obstetrician / consultant for all  
pregnant women and birthing people**

It is recommended that oxytocin IV infusion should be given through reduced volume regime to reduce the risk of hyponatraemia. See [appendix 5: Oxytocin regime](#) for more information.



## 16.1 Obstetric assessment prior to commencing IV oxytocin

A senior obstetrician should perform and document an assessment and individualised management plan in the labour record prior to commencement of IV oxytocin. This may include the following:

- Parity
- Maternal or birthing parent and fetal risk factors
- Review of CTG
- Abdominal palpation
- Cervical assessment
- Dose schedule for oxytocin, including frequency of increment.
- When oxytocin should be stopped.
- Monitoring arrangements for the woman or birthing person and fetus.
- Time of next re-assessment.
- Discuss maternal or birthing person analgesia choices including epidural prior to commencement of oxytocin.
- A proton pump inhibitor (PPI) e.g. omeprazole 20mg should be given orally prior to commencing the oxytocin and continued 12 hourly during labour.
- Oxytocin is an antidiuretic. Please refer to [Hyponatraemia in Labour](#) guidance. Ensure FBC, U&Es and group & save is taken at point of cannulation.

## 16.2 Maternal or birthing person and fetal observations during IV oxytocin infusion

- Once a woman or birthing person commences IV oxytocin, they require one to one care and observations as per [Care in labour](#) guidance.
- All pregnant women and birthing people with oxytocin must have continuous CTG.

### 16.2.1 Assessing progress during IV oxytocin for IOL

- The pregnant woman or birthing person should be offered a vaginal examination 4 hours after onset of regular contractions (3-4 in 10 minutes).
- If there is no cervical change, further obstetric review is required to assess whether caesarean birth is advisable.
- If there is less than 2cm change in dilatation, a full obstetric review should be undertaken to determine whether oxytocin should continue, taking into account the whole clinical picture, including Bishop score, fetal wellbeing and the woman and birthing person's wishes.



### 16.2.2 Assessing progress during IV oxytocin in first stage of established labour

- The pregnant woman or birthing person should be offered a vaginal examination 4 hours after commencing oxytocin in established labour.
- If there is less than 2 cm progress after 4 hours of oxytocin, further obstetric review is required to assess whether caesarean birth is advisable.
- If there is 2 cm or more progress within 4 hours advise 4 hourly vaginal examinations.
- If oxytocin is restarted in the first stage of labour, base the timing of the next vaginal examination on a clinical assessment of the woman or birthing person and their individual circumstances.

### 16.3 Titrating the dose of IV oxytocin infusion

See [appendix 5: Oxytocin regime](#) for more information.

- If oxytocin is used in the first stage of labour, ensure that the time between increments of the dose is no more frequent than every 30 minutes. Increase oxytocin until there are 3 to 4 contractions in 10 minutes.
- Use oxytocin in labour with caution. If the woman or birthing person has contractions more frequently than 4 in 10 minutes, reduce or stop the oxytocin until the woman or birthing person is having 4 or fewer contractions in 10 minutes.
- Oxytocin must be discontinued immediately if the cardiotocography is pathological, and urgent obstetrician or senior midwife review sought.
- Pause oxytocin during transfer to theatre for emergency birth (may be recommenced once in theatre e.g. for instrumental birth).
- Consider restarting oxytocin in the first stage of labour if:
  - Obstetric review has been carried out and the cardiotocography is no longer pathological
  - The woman or birthing person agrees that it can be restarted.
  - Base the dose when restarting on a full clinical assessment, taking into consideration the previous dose.

### 16.4 Use of IV oxytocin during second stage of labour

If starting oxytocin in the second stage, dilute 10 units of oxytocin to 50 ml sodium chloride 0.9%w/v and run through a syringe driver. The infusion rate should start at 0.6 ml/hr. See [appendix 5: Oxytocin regime](#) for more information.

- An obstetrician should carry out an in-person assessment of a woman or birthing person with confirmed delay in the second stage after transfer to obstetric-led care before contemplating the use of oxytocin. This should include:
  - Assessment and confirmation of fetal wellbeing (including presentation, position and heart rate).

- Differentiation between the fetal and maternal heart rates.
- Confirmation that there are no signs of obstructed labour.
- Confirmation that contractions are infrequent or ineffective.
- If the decision is made to start oxytocin in the second stage of labour, ensure that the time between increments of the dose is no more frequent than every 30 minutes. Increase oxytocin until there are 3 to 4 contractions in 10 minutes.
- In the 2nd stage of labour, the infusion may be increased at shorter intervals as per instructions of a senior obstetrician. This should be clearly documented in the notes.
- After initial obstetric assessment of a woman or birthing person with delay in the second stage, maintain ongoing obstetric review every 15 to 30 minutes.

## **17.0 Management of uterine hyperstimulation**

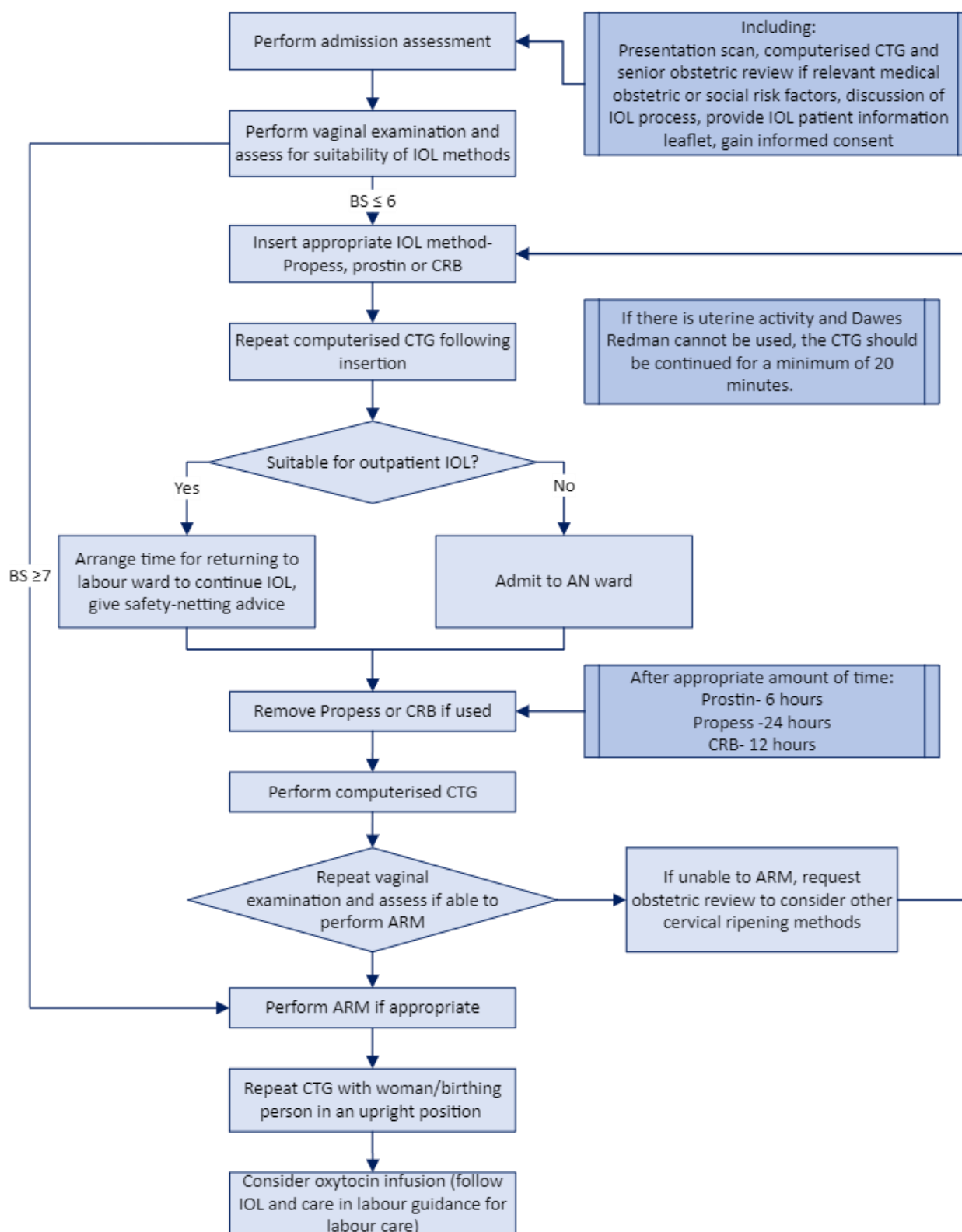
If uterine hyperstimulation occurs during induction of labour:

- 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 (see [Terbutaline PGD](#)).
- Senior obstetrician to review.

## **18.0 Uterine rupture**

If uterine rupture is suspected during induced labour, carry out an immediate category 1 caesarean birth.

## Appendix 1: IOL pathway



## Appendix 2: Bishop Score

The Bishop score is a numerical value obtained by doing a vaginal examination, and is based on the dilation, effacement (or length), position and consistency of the cervix and the station of the head with respect to the ischial spines of the pelvis. ([NICE 2021](#))

BISHOP SCORE				
Cervical Feature	0	1	2	3
Position	Posterior	Central	Anterior	-
Consistency	Firm	Medium	Soft	-
Length (cm)	3	2	1	0
Dilatation (cm)	0	1-2	3-4	>4
Station to spines	-3	-2	-1	0

## Appendix 3: Use of Cooks Ripening Balloon

### Insertion of CRB

1. Prepare equipment
2. Assist the woman/birthing person into lithotomy position.
3. Perform VE to assess cervix for suitability of balloon
4. Open sterile equipment if CRB is required
5. Insert stylet into the blue central port, marked "S"
6. Using plenty of lubricating gel, advance the CRB until both balloons have passed the internal os. CRB can be inserted using a speculum or digitally
7. Assistant removes the stylet from the central port, while CRB is stabilised by the midwife/doctor
8. Assistant draws up 40 ml normal saline into luer lock syringe
9. Assistant slowly inflates the uterine balloon via the red port marked "U" with 20 ml normal saline
10. Pull back the CRB until the uterine balloon is against the internal os. The vaginal balloon should be felt outside the external os.
11. Assistant slowly inflates the vaginal balloon via the green port marked "V" with 20 ml normal saline
12. Once both balloons are on either side of the cervix, saline should be added up to a total of 80ml in each balloon separately. Patient tolerance and clinical circumstances should always be the primary consideration.
13. Consider risk factors for cord prolapse.
14. Assist the women or birthing person out of the lithotomy position

Equipment list:  
 VE/Catheter pack  
 Sterile gloves  
 Lubricating gel  
 Normal Saline 0.9%  
 Scissors  
 50ml Luer Lock syringe  
 CRB (do not open until a VE has confirmed that CRB is required)

Manufacturers guidance is that up to 80ml per balloon (total 160ml maximum) can be used, based on patient tolerance and clinical circumstances.

### Removal of CRB

1. Deflate the balloons through the valves and remove the catheter.
2. Perform CTG until Dawes Redman criteria met (or until normal CTG if contracting) in upright maternal position to allow presenting part to descend into pelvis.
3. Palpation to assess suitability of ARM.
4. Perform a VE to assess suitability for ARM (if no spontaneous rupture of membranes). This includes application of head onto cervix (THINK cord presentation/prolapse).
5. ARM should be performed on labour ward at earliest opportunity after 12 hours, dependent upon workload. If delay in ARM, CRB can be left in place (for up to 24 hours only and only if delay is due to acuity/staffing issues). Repeat CTG after ARM.

## Appendix 4: Administration of pharmacological ripening methods

If there is any maternal or birthing person reaction to dinoprostone (Prostin®/Propess®) the midwife providing care must inform the Labour Ward coordinator and discuss with the on-call obstetric registrar.

Due to the risk of hyperstimulation with these medications, confirm the absence of uterine contractions before administering.

Prostin E2® Vaginal Tablets and Vaginal Gel are not bioequivalent.

### Prostin E2® gel (BNF):

[Prostin E2 Vaginal Gel 2mg - Summary of Product Characteristics \(SmPC\) - \(emc\)](#)

#### A GUIDE FOR PATIENTS

- Primigravida with unfavourable cervix:
  - Insert 2 mg gel into posterior fornix. Avoid administration into cervical canal.
  - If after 6 hours further prostaglandins are required, further dose of 1 mg gel may be required.
  - Maximum 4 mg per course.
- Multiparous:
  - Insert 1 mg gel into posterior fornix. Avoid administration into cervical canal.
  - If after 6 hours further prostaglandins are required, further dose of 1 mg gel may be required.
  - Maximum 3 mg per course.

### Prostin E2® vaginal tablets (BNF):

[Prostin E2 3 mg Vaginal Tablets - Summary of Product Characteristics \(SmPC\) - \(emc\)](#)

#### A GUIDE FOR PATIENTS

- Insert 3mg dinoprostone tablet (Prostin®) into the posterior fornix.
- If after 6-8 hours further prostaglandins are required, further 3 mg tablet may be required.
- Maximum 6 mg per course.

### Propess® 10 mg

1. Hold the vaginal delivery system between the index and the middle finger and insert it in the vagina. If required, a small amount of water-soluble lubricant can be used.
2. Propess® is placed crosswise high up in the rear fornix of the vagina.
3. Leave 2cm of the tape hanging out of the vagina to ensure easy removal.
4. Ensure that the patient is lying down or seated for 20-30 minutes after insertion to let the vaginal delivery system swell.
5. Propess® can be left in place for a maximum of 24 hours.
6. Propess® should be removed 30 minutes before oxytocin infusion is commenced.

## Removal

Prostaglandin pessaries (e.g. Propess®) should be removed in accordance with national and manufacturer guidance. This includes removal in the event of spontaneous rupture of membranes, onset of regular uterine activity, suspected uterine hyperstimulation, or fetal compromise. Prompt removal helps to reduce the risk of adverse outcomes and should always be documented clearly.

Propess® should be removed in the following situations:

- Multigravid women and birthing people may develop regular painful contractions without any apparent cervical change. Effacement and dilatation of the cervix may not occur until uterine activity is established. Because of this, once regular painful uterine activity is established with Propess® in situ, the vaginal delivery system should be removed irrespective of cervical state to avoid the risk of uterine hyperstimulation.
- Spontaneous rupture of the membranes
- Uterine hyperstimulation or hypertonic uterine contractions.
- Evidence of fetal distress.
- Evidence of maternal systemic adverse dinoprostone effects

[Propess® 10 mg vaginal delivery system - Summary of Product Characteristics \(SmPC\) - \(emc\) \(medicines.org.uk\)](#)

Patient information leaflet: [Propess® 10mg vaginal delivery system - Patient Information Leaflet \(PIL\) - \(emc\) \(medicines.org.uk\)](#)

## Appendix 5: Oxytocin Infusion regime

Dilute 10 units of oxytocin to 50 ml sodium chloride 0.9%w/v and run through a syringe driver at the following rates.

Low dead space extension sets should be used to reduce drug retention. Dead space volume should be known and documented (varies by tubing type, typically 1-3ml). The giving set and adapter must be primed with the oxytocin infusion before attaching it to the woman or birthing person to remove the 'dead space' in the line and ensure the correct dose of oxytocin is provided. Dedicated infusion lines for oxytocin should be used to prevent residual medication from being flushed into circulation when changing fluids. Dead space in the IV cannula adds:

Grey 0.24ml = 48 minutes (variation 42 - 54 minutes)

Green 0.19ml = 38 minutes (variation 32 - 44 minutes)

Pink 0.17ml = 34 minutes (variation 28 - 40 minutes)

### Commence infusion at 0.6 mls per hour.

- In order to take account of the dead space in the iv cannula, increase the infusion rate after **45 minutes for the first dose, then every 30 minutes** until contractions are 3-4 in 10 minutes.
- Where contractions exceed 4 in 10 minutes, reduce oxytocin, inform labour ward co-ordinator and consider tocolysis using terbutaline 250 micrograms subcutaneously.  
[Terbutaline PGD](#)
- if regular contractions not established after a total 5 units, stop induction attempt (may be repeated next day starting again at 1–4 milliunits/minute).

Infusion rate	Infusion rate milliunits per min
Run first dose for 45 minutes to allow for dead space in cannula.	
0.6ml/hr	2
Increase the infusion rate every <u>30 minutes</u> until regular contractions achieved.	
1.2ml/hr	4
2.4ml/hr	8
3.6ml/hr	12
4.8ml/hr	16
6.0ml/hr	20
If further increase needed, this should be discussed with the available registrar or consultant as rates over this are contraindicated in the <a href="#">BNF</a> and will be an off-label use.	
7.2ml/hr	24
8.4ml/hr	28
9.6ml/hr	32



## Appendix 6: Information Leaflet for women and birthing people – Induction of labour delays and transfers

Link to *NHS South East Clinical Delivery and Networks* website with translation for this patient information in 28 languages: [Induction of labour - Welcome](#)

### Induction of labour delays and transfers - Information for pregnant women/people



**During busy times, your care and what matters to you is still very important to us, we will talk everything through with you and you can ask any questions**



#### Delays of induction of labour

Sometimes maternity units get busier than normal, especially if lots of babies want to arrive at the same time. When this happens, we may have to change staffing and prioritise urgent care. All inductions are important but sometimes there may be a need to delay an induction or offer a transfer to another hospital who could provide care sooner.

This only happens in exceptional circumstances!

This news may be very disappointing especially if you have planned for things like childcare, family visits and of course, to meet your baby. You may also have concerns about how safe it is for you and your baby to wait.

- If something is very difficult or really matters to you, please talk it through with us, we may not be able to do anything differently, but we always want to know how you are feeling.
- Delays in starting or continuing your induction of labour will only happen if it is safe to do so and after staff in the hospital have tried everything they can to continue as planned.

During the delay a midwife may speak to you about your baby's movements and to see how you are feeling.

If you are at home you may be asked to come into hospital for a check-up, this could include monitoring of baby (CTG), a scan and other checks, you may be asked to stay at the hospital while waiting for your induction, this will all be discussed with you.

**Whether you are in hospital or at home, if you are worried or have any of these symptoms, call maternity triage or speak to a midwife in the hospital**

The telephone number for you to call is .....



Vaginal bleeding



Increased discharge, especially if this is watery



Waters break



Babies movements reduce or change



Feel ill or have a temperature



Pain in your tummy, this might come and go or it might be there all the time



Itching



Swelling of your hands, feet or face



Changes to your vision or headaches



**As always, it is important to know your baby's movements and notice any changes!**



#### Transfer to another hospital

Sometimes you may be offered the choice to go to another hospital to have your baby if they can provide care sooner. If this is an option it will be discussed with you, it is your choice and you do not have to go to another hospital.

Your birth preferences, the questions you have, and what matters to you, is important to the team caring for you. In the discussion you will be able to ask any questions and discuss if any of this may impact your birth preferences.

If you transfer to another hospital, some choices may not be available, they may not have a birthing pool for example, that is why telling us what matters to you is important.

If you decide to go to another hospital, the team caring for you will ensure the hospital you go to has all the important information, including your birth preferences and personalised care plan (if you have made one) and once your baby has been born they will contact your original hospital to make a plan for you care for when you go home (postnatal care).

## Appendix 7: RAG Rating for prioritisation

<b>RED</b> <b>To be commenced within 24 hours</b>	<b>AMBER</b> <b>To be commenced within 24-48 hours</b>	<b>GREEN</b> <b>To be commenced within 72 hours</b>
<ul style="list-style-type: none"> <li>• 42+ weeks gestation</li> <li>• Reduced fetal movements with risk factors</li> <li>• PET</li> <li>• APH at term</li> <li>• Type I / II diabetes</li> <li>• GDM with poor glycaemic control</li> <li>• Severe polyhydramnios</li> <li>• Obstetric cholestasis (BA &gt;100)</li> <li>• PPRM at term</li> <li>• PPRM preterm with other risk factors</li> <li>• Rhesus iso immunisation</li> <li>• Current stillbirth</li> <li>• Previous stillbirth with known recurrent cause</li> <li>• SGA below 10<sup>th</sup> centile with abnormal dopplers</li> <li>• MCDA Twins</li> <li>• Significant mental health condition</li> <li>• Major fetal abnormality decision for IOL made by fetal medicine specialist</li> <li>• Any previously amber IOL that has not commenced within 48 hours</li> <li>• Any previously green IOL that has not commenced within 72 hours</li> </ul>	<ul style="list-style-type: none"> <li>• Postdates 40+12</li> <li>• Reduced fetal movements without other risk factors</li> <li>• GDM with good glycaemic control</li> <li>• Obstetric cholestasis (BA &gt;41-99)</li> <li>• PIH</li> <li>• Reduced growth velocity, normal dopplers</li> <li>• Low PAPP-A with placental insufficiency/FGR/SGA.</li> <li>• SGA below 10<sup>th</sup> centile with normal dopplers</li> <li>• Previous stillbirth without known recurrent cause</li> <li>• DCDA twins</li> <li>• Any previously green IOL that has not commenced within 48 hours</li> </ul>	<ul style="list-style-type: none"> <li>• Postdates 40+10</li> <li>• Obstetric cholestasis (BA &lt;40)</li> <li>• Maternal request</li> <li>• Maternal age</li> <li>• IVF with no other risk factors</li> <li>• LGA without diabetes</li> <li>• VBAC with no other risk factors</li> <li>• Raised BMI with no other risk factors</li> </ul>

CLINICAL GUIDELINE

**Due for review:** October 2028

**Name of Guideline:** Induction & augmentation of labour  
& use of oxytocin v1.0

**For use at:** PRH, RSCH, SRH & WH



**University Hospitals Sussex**  
NHS Foundation Trust

**Monitoring the effectiveness of this guideline**

<b>Issue being monitored</b>	<b>Monitoring method</b>	<b>Responsibility</b>	<b>Frequency</b>	<b>Reviewed by and actions arising followed up by</b>
Adverse outcomes are monitored via patient safety and the incident review process.	Case review	Patient Safety Midwives	On-going	Patient Safety Midwives and Governance Team.

## Guideline Version Control Log

This should be included for all updated guidelines, summarising the changes between the current and previous version. (Earlier changes should be deleted from the list when the guideline is updated.)

Do not list minor and stylistic changes or changes which do not alter the processes described.

If the update includes a significant reorganisation of the material, indicate this and list the main areas where the process itself has changed.

Version	Date	Author(s)	Substantive changes since previous version
1.0	March 2024	David Utting, Consultant Obstetrician Niamh Maguire, Consultant Obstetrician Julie Carr, Consultant Midwife	New Trust-wide guideline replacing: <b>SRH&amp;WH:</b> <ul style="list-style-type: none"> <li>CG1119 IOL &amp; augmentation of labour &amp; use of Oxytocin</li> </ul> <b>PRH&amp;RSCH:</b> <ul style="list-style-type: none"> <li>MP033 Induction of Labour</li> <li>MP041 Delay in labour and use of oxytocin</li> </ul>

## Due Regard Assessment Tool

To be completed and attached to any guideline when submitted to the appropriate committee for consideration and approval.

		Yes/No	Comments
1.	<b>Does the document/guidance affect one group less or more favourably than another on the basis of:</b>		
	Age	No	
	· Disability	No	
	· Gender (Sex)	No	
	· Gender Identity	No	
	· Marriage and civil partnership	No	
	· Pregnancy and maternity	No	
	· Race (ethnicity, nationality, colour)	No	
	· Religion or Belief	No	
	· Sexual orientation, including lesbian, gay and bisexual people	No	
2.	<b>Is there any evidence that some groups are affected differently and what is/are the evidence source(s)?</b>	No	
3.	<b>If you have identified potential discrimination, are there any exceptions valid, legal and/or justifiable?</b>	NA	
4.	<b>Is the impact of the document likely to be negative?</b>	No	
5.	<b>If so, can the impact be avoided?</b>	NA	
6.	<b>What alternative is there to achieving the intent of the document without the impact?</b>	NA	
7.	<b>Can we reduce the impact by taking different action and, if not, what, if any, are the reasons why the guideline should continue in its current form?</b>	NA	
8.	<b>Has the document been assessed to ensure service users, staff and other stakeholders are treated in line with Human Rights FREDAs principles (fairness, respect, equality, dignity and autonomy)?</b>	Yes	

If you have identified a potential discriminatory impact of this guideline, please refer it to [Insert Name], together with any suggestions as to the action required to avoid/reduce this impact. For advice in respect of answering the above questions, please contact [uhsussex.equality@nhs.net](mailto:uhsussex.equality@nhs.net) 01273 664685).

## Dissemination, Implementation and Access Plan

To be completed and attached to any guideline when submitted to Corporate Governance for consideration and TMB approval.

	Dissemination Plan	Comments
1.	Identify:	
	Which members of staff or staff groups will be affected by this guideline?	Midwives and obstetricians
	How will you confirm that they have received the guideline and understood its implications?	Dissemination through the usual Communication channels and highlighted at Safety Huddles.
	How have you linked the dissemination of the guideline with induction training, continuous professional development and clinical supervision as appropriate?	All new members of staff shown where to access Clinical documents that are relevant to their area of practice.
2.	How and where will staff access the document (at operational level)?	Accessed by staff via Sharepoint

		Yes/No	Comments
3.	Have you made any plans to remove old versions of the guideline or related documents from circulation?	Yes	Previous versions will be archived.
4.	Have you ensured staff are aware the document is logged on the organisation's register?	Yes	Dissemination plan includes notifying staff via email, safety noticeboards, departmental newsletter and social media.

## Additional guidance and information

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