

## INTRAPARTUM GUIDELINES

### No. 12 Induction of Labour (IOL)

<u>Section</u>	<u>Contents</u>	<u>Page</u>
1.	Introduction	1
2.	Reasons for IOL	2- 3
3.	Methods for IOL	4
4.	Pathway for admission to hospital of women requiring IOL	6 & 14
5.	Management of IOL (Propess, ARM, Oxytocin)	6-11
6.	Specific clinical situations (VBAC and Cool Balloon)	11
7.	Complications of IOL	12
8.	Pain Relief	13
9.	Failure of IOL	13
10.	Fetal surveillance in post-term pregnancies where IOL has been declined	13
11.	Patient information and discussion	13-14
12.	Record keeping and documentation	14
	Appendix 1	14
	Appendix 2 (Bishop's scoring system)	15
	Appendix 3 Cook Balloon as method for IOL – Standard Operating Procedure	16-17
	Appendix 4 Outpatient IOL pathway and checklist	18-21

#### 1. Introduction

Most women will go into spontaneous labour by 42 weeks. However, there are circumstances that will require induction of labour (IOL). This document is intended to provide guidance in the following:

- Prolonged pregnancy
- Prelabour rupture of membranes at term
- Previous caesarean section (LSCS)
- Preterm prelabour rupture of membranes
- Diabetes
- Small for gestational age
- Maternal request for IOL
- Grand multiparity (P4 or more)
- Breech presentation
- Assisted conception pregnancies

For IOL in cases of intrauterine fetal death, please refer to intrapartum guideline 16 (see cross references).

**Avoid Induction:**

- If there is a confirmed small for gestational age fetus with absent or reversed end-diastolic velocity unless deemed appropriate by a Consultant
- If there is suspected fetal macrosomia with no other indication.
- To avoid unattended birth if there is a history of precipitate labour.

**Induction of labour in high risk cases**

Timings of induction of labour should be aligned with the clinical needs of the patient. However, it is inadvisable to commence high risk inductions of labour at night and should be avoided wherever possible.

- SGA - all IOL for SGA should be communicated with the neonatal team, a plan for additional fetal monitoring provided if required and a decision regarding the need for Propess on CDS. If Doppler and liquor volume were normal on the latest scan with no additional plans for fetal monitoring, it is reasonable to offer the induction on Argyll ward.
- Multiple pregnancy – consider the need to administer Propess on CDS and avoid ARM late in the day unless there is a clinical need. Ensure only one twin induction is booked per day.
- VBAC – aim to transfer women to CDS before 0800 for ARM
- Raised BMI (>40) – aim to transfer women to CDS before 0800 for ARM

**2. Reasons for IOL**

**2.1 Prolonged pregnancy**

Women with uncomplicated pregnancies should be given every opportunity to go into spontaneous labour. However, if this does not happen IOL must be offered between 41 and 42 weeks gestation (Unit recommended timeframe of T+12) taking into account women's preferences and local circumstances – please refer to section 3.7.

Process for IOL is shown in appendix 1.

**2.1.1 Membrane sweeps prior to IOL**

In order to give women every opportunity to go into labour spontaneously, offer membrane sweeps:

- To nulliparous women at 40 week antenatal visit
- To nulliparous again and multiparous women at 41 week antenatal visit
- Offer additional membrane sweeps if labour does not start spontaneously

However, on maternal request sweep can be performed from 38 weeks onwards.

The sticker for vaginal examinations should be used for all assessments ensuring that there is documentation of the abdominal palpation. This should be used by all staff members.



## 2.2 Prelabour rupture of membranes at term

Women with prelabour rupture of membranes at term (at or over 37 weeks) should be offered a choice of immediate induction of labour with vaginal PGE2 or expectant management. IOL in expectant management should occur approximately 24 hours (accounting for the patient's wishes and time of day) after prelabour rupture of the membranes at term if not in established labour.

Group B streptococcus: Immediate induction and intrapartum antibiotic prophylaxis should be offered to all women from 37 weeks gestation with prelabour rupture of membranes.

Meconium stained liquor: thin meconium with no other concerns is not a strong contraindication to expectant management however thick meconium is an indication for immediate induction and continuous electronic fetal monitoring.

## 2.3 Previous caesarean section

Induction of labour in women with a previous caesarean birth is associated with higher rates of uterine rupture when compared with women who labour spontaneously, or choose elective caesarean birth. If delivery is indicated, women who have had a previous caesarean section are now offered IOL with an artificial rupture of membranes and Syntocinon or a Cook Cervical Ripening Balloon (CCRB), a caesarean section or expectant management on an individual basis, taking into account the woman's circumstances and wishes. Women should be informed of the increased risks with induction of labour:

- increased risk of need for category 1 caesarean section
- increased risk of uterine rupture.

The decision for induction must be made by a Consultant and the catheter device should be fitted on CDS in the late afternoon before transfer to the antenatal ward overnight.

## 2.4 Preterm prelabour rupture of membranes

If a woman has preterm prelabour rupture of membranes, IOL should not be carried out before 34 weeks unless there are additional obstetric indications (for example, infection or fetal compromise). If a woman has preterm prelabour rupture of membranes after 34 weeks, the maternity team should discuss the following factors with her before a decision is made about whether to induce labour, using vaginal PGE2:

- risks to the woman (for example, sepsis, possible need for caesarean section)
- risks to the baby (for example, sepsis, problems relating to preterm birth)
- local availability of neonatal intensive care facilities

This should be documented clearly in the green antenatal handheld notes.

## 2.5 Diabetes

IOL in women with diabetes are performed to reduce the complications to the neonate and the mother.

IOL for women with pre-existing diabetes should occur at 37-38+6 weeks of gestation. Gestational diabetics should deliver no later than 40+6 weeks gestation. If there are additional concerns the team caring for the patient will adjust this as necessary.

Diabetes should not in itself be considered a contraindication to attempting vaginal birth after a previous caesarean section.

Pregnant women with diabetes who have an ultrasound-diagnosed macrosomic (>4.5kg regardless of gestational age) fetus should be informed of the risks and benefits of vaginal birth, IOL and caesarean section. The mode of delivery will be decided on an individual basis.

## 2.6 Fetal growth restriction

In the small for gestational age fetus with umbilical artery absent or reversed end-diastolic velocity, IOL is generally not recommended and would only be considered in selected cases. Consultant Obstetricians must be involved in their care and the Neonatal team must be warned.

## 2.7 Maternal request for IOL

IOL should not be routinely offered on maternal request alone. However, in exceptional circumstances, e.g. partner to be posted abroad with armed services, induction may be considered at or after 40 weeks. However, women must be informed that IOL can only be considered if the Unit has adequate capacity.

## 2.8 Grand Multiparity

Care needs to be taken when inducing grand multiparous patients due to increased risk of uterine rupture and hyperstimulation of the uterus.

For patients  $\geq$  P4 the decision to induce must be made by a Consultant. The following principles apply:

- In the presence of an unfavourable cervix consider stretch and sweeps
- Consider mechanical dilatation of the cervix, ie. Cook Cervical Ripening Balloon if ARM is not possible
- Prostaglandins should be avoided
- Syntocinon should be used with caution - dosages and regimes should be discussed and agreed with the Consultant team.

## 2.9 Breech presentation

- Only if caesarean declined, and external cephalic version failed, declined or contraindicated.

If a woman chooses to have a breech IOL, a full discussion of risks must be documented within the patient health record.

## 2.10 Assisted conception

IOL should be offered to women with assisted conception pregnancies at term, ovulation induction for conception alone is not an indication for IOL prior to post-maturity. However, the clinical management of these women remains with the lead consultant for their pregnancy and labour care.

## 2.11 Multiple pregnancy

Labour is induced in the same way as for singletons provided twin 1 is cephalic and there are no other risk factors present. Women with uncomplicated dichorionic twins are offered delivery at 37-38 weeks gestation. See guideline number 17.

## 3. Methods of IOL

### 3.1 Membrane sweep

Prior to formal induction of labour, women should be offered sweeping of the membranes between 40 – 41 weeks (check for low-lying placental site first).

When membrane sweeping is proposed discussions should include information, which informs women, that sweeping:

- is not associate with an increase in maternal or neonatal infection

- is associated with increased levels of discomfort during the procedure and bleeding

### 3.2 Vaginal Prostaglandin (PGE<sub>2</sub>) Administration – Propess

**It is recommended that ALL women admitted for IOL should receive Prostaglandin E2 (Propess) for IOL irrespective of their gestation, cervical dilatation and bishops score unless there are contraindications to propess administration. (see 5.4.2.1) In certain cases the Obstetric Consultant on duty may decide to proceed without Propess, this is on an individual basis.**

PGE<sub>2</sub> may be administered into the posterior fornix as a 10 mg Propess slow release pessary. Prostaglandins are released and act locally. In an unfavourable cervix they will cause cervical ripening, but this process may take 18 hours or even longer. In a favourable cervix they may not only ripen the cervix but may induce labour directly. Prostaglandins should be used in preference to oxytocin when IOL is undertaken in either nulliparous or multiparous women with intact membranes, regardless of their cervical favourability.

**Following the onset of labour, women can have intermittent auscultation of the fetal heart rate if the onset of labour CTG is normal, no hyperstimulation and there is no other indication for CEFM.**

**Out-patient (OP) IOL with Propess can be offered to some women. See Appendix 4. The SOP is to be used in conjunction with the rest of the guideline.**

### 3.3 Amniotomy (Artificial Rupture of Membranes or ARM)

Amniotomy should not routinely be used, alone or with oxytocin, as a primary method of IOL unless there are specific reasons for not using PGE<sub>2</sub> pessaries.

Avoid amniotomy where the presenting part is high

If an ARM is to be performed:

- assess engagement of presenting part and document
- palpate for umbilical cord presentation and / or vasa praevia during preliminary vaginal examination (avoid dislodging the fetal head)
- the fetal heart rate must be recorded before, during and following the procedure for ARM

**NB** – a woman admitted for a planned routine IOL without Propess (e.g. due to parity) who is ARMable, may return home following medical review if CDS is unable to accept her. The woman should be advised to return for daily antenatal checks and CTG monitoring. CDS must be informed and asked to contact the woman at home when they are able to accept her. An explanation should be given to the woman that CDS will contact her day or night, if this is acceptable. An apology should also be given re: delay due to workload pressures.

### 3.4 IV oxytocin

Evidence suggests that use of IV oxytocin as primary method of induction is not as effective as PGE<sub>2</sub> pessaries and is therefore not generally recommended.



### **3.5 IV oxytocin with amniotomy**

Evidence suggests there is no advantage of using IV oxytocin together with amniotomy over the use of PGE<sub>2</sub> pessaries. IV oxytocin with amniotomy should not be used as a primary method of IOL unless there are specific reasons for not using PGE<sub>2</sub> pessaries.

### **3.6 Mechanical methods of IOL (Cook Cervical Ripening Balloon)**

There is mounting evidence that mechanical methods of induction are equivalent in efficacy and cost to that of Propress. Since these methods are associated with less hypertonicity, they may reduce the risk of uterine rupture in the presence of a previous caesarean section scar. The Cook Cervical Balloon catheter (CCRB) is now available for routine induction of labour in women with previous Caesarean section and for other forms of induction should the senior Obstetrician desire.

## **4. Pathway for admission to hospital of women requiring IOL**

See appendix 1

## **5. Management**

### **5.1 Review of indication for IOL and decision regarding IP/OP IOL.**

A review of the case notes must be undertaken. If there are any changes or abnormalities not previously known about, a medical review must be obtained and documented prior to the induction process.

### **5.2 Maternal observations before and during IOL**

The mother should be afforded individualised care safeguarding her privacy and dignity. Discussion with mother and partner of plans for labour and desires for care in labour, including decision making and consent before all procedures, should take place.

- Physical Examination recording temperature, pulse, blood pressure and urinalysis.
- Abdominal palpation of the woman for fetal size, fetal lie, fetal presentation and level of presenting part (in relation to the pelvic brim)
- Check for low lying placenta
- Vaginal examination should not be routine or prescriptive but only be carried out where there is a clinical necessity and after discussion with the woman. If the midwife is unable to identify the presenting part a second opinion should be sought. This must be documented on the sticker.
- Recording of liquor colour if spontaneous rupture of membranes has occurred.

All physical observations must be recorded on a MEOWS chart. If are normal they do not need to be repeated unless further prostaglandins are administered or there is a clinical need to do so. Once the woman is in labour observations must be recorded as in local guideline IP 13 Intrapartum Care; the MEOWS chart must be continued.

### **5.3 Fetal monitoring before and during IOL**

Prior to any form of IOL a CTG must be performed that provides evidence of fetal wellbeing. It is important that CTGs are not only performed but that they correctly timed, dated and interpreted with appropriate actions taken. Maternal pulse must be documented on the CTG. In addition, please refer to section 5.4.1 & 5.4.4 - fetal monitoring prior to and following administration of Propress.

## 5.4 Propess IOL

### 5.4.1. Pre-Propess monitoring

CTG should be performed for 30 minutes to assess fetal well-being. Findings should be fully recorded in the notes.

The induction should only proceed if the CTG is normal. If the CTG is suspicious or pathological, DO NOT continue with the induction process. Please request an obstetric review and document a plan of care.

### 5.4.2. Administration of Propess

#### 5.4.2.1 Administration of Propess under medical prescription

Once the decision for IOL has been made (see section 3) a specialist trainee or consultant must document a management plan in the patient records. Any registered doctor may prescribe the Propess. Administration of Propess under these circumstances may be carried out by a midwife.

A midwife can administer Propess pessaries for reasons other than post-maturity when the decision to induce has been made at registrar level or above and a signed, medical prescription has been obtained.

Contraindications for Propess

- Parity >3
- Allergy to Propess
- Suspicious/pathological CTG
- Any contraindication to IOL (e.g. praevia, severe growth restriction with fetal compromise)
- Regular contractions – discuss with Registrar and document a plan of action accordingly.

#### 5.4.2.2 Administration of Propess under a Patient Group Direction (PGD)

A midwife can administer Propess under a PGD for low risk post-mature women (previously MLC transferred to CLC for post-mature IOL). Any subsequent pessaries MUST be prescribed by a doctor.

Inclusion criteria for administration of Propess under a PGD:

- Term +12
- Intact membranes
- Cephalic presentation
- Singleton pregnancy
- No medical / obstetric complications
- less than P4
- No previous LSCS
- Normal CTG
- Not contracting
- Informed consent by patient e.g., discomfort of the procedure, bleeding, contractions, hyperstimulation, pre-labour rupture of the membranes, the need for monitoring of the fetal heart rate, risk of failed IOL.

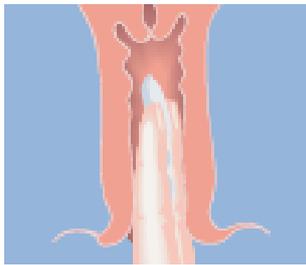
**ALL** criteria must be met before Propess administration under PGD

### 5.4.3. Vaginal insertion of Propess

Propess is presented as a thin, flat semi-opaque vaginal delivery system which is rectangular in shape and contained within a knitted polyester retrieval system. Each Propess vaginal insert contains **10mg of dinoprostone** (Prostaglandin E2) and provides a controlled and constant release of approximately **0.3mg of prostaglandin per hour over 24 hours** in women with intact membranes.

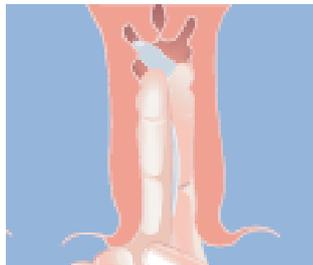
Propess should be stored in a freezer in the original container in order to protect from moisture. It can be removed from the freezer immediately before use, or up to 20 minutes before insertion.

- Perform vaginal examination
- Document palpation and VE findings on the vaginal examination sticker and sign prescription chart



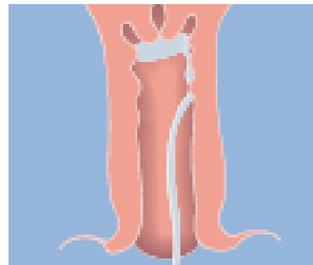
#### 1. Insertion

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



#### 2. Positioning

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



#### 3. After positioning

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



#### 4. Removal

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

If the Propess insert falls out and has remained clean, i.e. dropped onto clean bed sheets and not dropped on to the floor or into the toilet it may be reinserted and used to the 24 hour limit.

If it is not possible to re-insert the Propess due to contamination, a new one may be inserted and used up to 24 hours from the insertion of the first Propess pessary.

The excess tape outside the vagina may be cut and removed to prevent accidental removal of the Propess insert when the patient moves. However, sufficient tape should be left to allow for easy removal when required. The woman should be advised to take extra care not to pull the insert out accidentally when going to the toilet or bathing.

Experience from clinical trials suggest that dinoprostone release from the Propess insert is unaffected by bathing or showering. The manufacturer advises against excessive use of soap.

#### 5.4.4. Post Propess fetal monitoring

Repeat CTG:

- As soon as contractions are felt
- In presence of vaginal bleeding
- Rupture of membranes
- 24 hours after insertion if not in labour

**NB.** CTGs **must** be performed **more frequently** than stated above where there is a clinical indication to do so, i.e. where IOL is for any reason other than post-maturity. It is always helpful to have the reason for and frequency of CTGs documented in the care plan. This may be determined following discussion between the registrar, midwife and patient. In the presence of abnormalities, the CTG must be recorded continuously, a fresh eyes sticker completed and care escalated to the appropriate clinician.

In the case of induction for Small for Gestational age fetus, cross reference to Guideline 28: "The Small for Gestational Age Fetus" must be made in order to make plans for CTG assessment and location for care.

#### 5.4.5. When to remove Propess

- When labour is established (contracting regularly 3-4:10 over at least 1h)
- PV bleeding
- Uterine hyperstimulation or hypertonic uterine contractions (see 5.4.8)
- Evidence of fetal compromise
- Evidence of maternal adverse dinoprostone effects (nausea, vomiting and diarrhoea)
- **At least 30 minutes prior to starting an intravenous infusion of oxytocin**
- Following 24 hours, even if labour is not established. If CDS are unable to take the patient, the Propess may be left in situ for up to 30 hours.

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). Document time of removal in the patient notes.

#### 5.4.6 Spontaneous rupture of membranes with Propess in situ

Commence CTG for 30 minutes and if normal continue induction process. Otherwise contact obstetric team immediately and remove pessary. If there is no regular uterine activity Propess can be left in situ as per plan. Maternal pulse and temperature should be recorded 4 hourly. If there is regular uterine activity (contracting 3-4:10 over at least one hour), remove Propess. A cervical assessment is only indicated if established labour is suspected.

#### 5.4.7. Spontaneous rupture of membranes prior to Propess insertion

Propess can be used in the presence of ruptured membranes. However, if not in labour after 6 hours following insertion, transfer to CDS for oxytocin infusion. Do not delay due to increased risk of infection. In the rare event that the woman cannot be transferred to labour ward after 6 hours, the Propess is to remain in situ, if there are no other reasons why it should be removed, until transferred to CDS or for up to 24 hours – see section 5.4.5. See also intrapartum guideline 22: Pre-labour rupture of membranes at term.

**Propess MUST be removed at least 30 min prior to commencement of Syntocinon regime.**

#### 5.4.8. Hyperstimulation

6 or more contractions in 10 minutes for

at least 20 minutes or a contraction lasting  $\geq 2$  mins requires the following actions:

- Continuous CTG
- Propess should be removed
- Place woman on left lateral side

#### If CTG suspicious/pathological

- 0311 bleep holder informed immediately and coordinator
- Terbutaline 250 mcg s/c
- Consider transfer to CDS if abnormalities persist or CTG pathological
- IV access and bloods

If CTG improves after episode of hyperstimulation and cervix remains unfavourable then a further Propess may be inserted at the discretion of the 0311 bleep holder with consideration given to place of care and frequency of monitoring.

#### 5.4.9. After 24 hours

- Transfer to Delivery Suite
- Propess can be left in situ for up to 30 hours.
- Oxytocin can be commenced **30 minutes** after removal of Propess

**It is not advisable to repeat the dose of Propess**

**If the patient remains unsuitable for ARM syntocinon should be started. Following 6 hours of good contractions she should be reviewed for the possibility of LSCS dependent upon any progress made.**

#### 5.5 Amniotomy (Artificial Rupture of Membranes or ARM)

- Rupturing the membranes causes a release of local prostaglandins. The fetal heart rate must be recorded before, during and following the procedure for ARM.

**NB** - Where ARM has been performed for IOL (as opposed to augmentation) there is no need to wait for 2 hours prior to the commencement of oxytocin. In the absence of any contractions, please commence oxytocin as soon after the ARM as possible.

#### 5.7 Oxytocin IOL

- Oxytocin should not be started for 30 min after removal of Propess Where oxytocin is being used for IOL, continuous electronic fetal monitoring should be used.
- The induction process must occur on labour ward.
- In women with intact membranes, amniotomy should be performed where feasible prior to commencement of an infusion of oxytocin.

Oxytocin must not be started when pathological CTG is present unless fetal well-being has been confirmed.

**5.7.1 Recommended oxytocin regime and Dose algorithm**

- **50 ml** (3 units of oxytocin in 50 ml of normal saline) syringes are prepared on labour ward
- A drug additive label is then attached to the syringe. This label should indicate name of drug, concentration and expiry date.
- Prior to administration two midwives should check the drug and the date and time of administration together with the patient name added to the label.
- **Oxytocin cannot be infused though the same intravenous line as blood or plasma as it is inactivated by oxytocinase.**

When induction of labour is undertaken with oxytocin the recommended regimen is:

- a starting dose of 1–2 milliunits per minute
- increased at intervals of 30 minutes or more
- the minimum dose possible of oxytocin should be used and this should be titrated against uterine contractions aiming for a maximum of three to four contractions every ten minutes

In the summary of product characteristics the licensed maximum dose is 20 milliunits per minute. If higher doses are used, they must be sanctioned at registrar level or above the maximum dose used should not exceed 32 milliunits per minute.

**5.7.2 Administration of oxytocin** is via a syringe driver using the infusion rates shown in Table 1.

**Table 1** Oxytocin treatment algorithm based upon a dilution of 3 iu oxytocin in 50 ml 0.9% sodium chloride solution.

Time after starting - min	Oxytocin dose - mu/min	Volume - ml/h
0	1	1
30	2	2
60	4	4
90	8	8
120	12	12
150	16	16
180	20	20
<b>210</b>	<b>24</b>	<b>24</b>
<b>240</b>	<b>28</b>	<b>28</b>
<b>270</b>	<b>32</b>	<b>32</b>

**NB.** The quantities highlighted in bold print are above those referred to in the SPC of 20 milliunits per minute and can on be used following review and at the registrar or consultant discretion.

**The infusion rate should be reduced or discontinued in the event of the following:**

- Definite fetal distress – infusion must be stopped, terbutaline 250mcg sc given with persistent CTG abnormalities associated with hyperstimulation
- Uterus becomes hyperstimulated (contracting more than 5:10 or contraction lasting longer than 2 minutes) and does not relax between contractions.



## **6. Specific Clinical Situations**

### **6.1 Propess for cervical ripening in women with one previous lower segment caesarean section.**

With widespread introduction of the Cook Cervical Ripening Balloon across the UK (unlicensed) it has been decided to use this method of induction at Derriford from now on for women having a VBAC. If an ARM is possible without the need for mechanical dilators, this is the preferred method of IOL.

**NB – If Propess is still used for a patient with a previous LSCS, it must be performed on labour ward.**

**Decision for induction** must be made by a Consultant

#### **Inclusion criteria:**

- Singleton with cephalic presentation.
- No contraindication for vaginal delivery
- Bishop score < 7 or inability to ARM.

#### **Exclusion criteria:**

- Classical or unknown caesarean section scar.
- More than one previous caesarean section.
- Myomectomy with extension into the uterine cavity.
- Placenta praevia.
- Breech, Twins / Triplets.
- CTG abnormality.
- Uterine contractions > 3 in 10 minutes.
- ARM possible .

#### **Risk factors for uterine rupture:**

High head, very unfavourable cervix and combination of use of prostaglandin and oxytocin.

#### **Recommendations**

- Involvement of senior obstetrician in the antenatal period for decision making for IOL. Plans for delivery and IOL involving documented discussion with an experienced obstetrician.
- Commence 1-4 hourly maternal pulse and BP, according to clinical need, and continuous fetal monitoring at the onset of contractions.
- Involvement of senior obstetrician in the intrapartum management.
- Attentive pre-labour and intrapartum maternal and fetal surveillance with access to category 1 LSCS within 30 mins.
- Information about relevant symptoms to be reported to those caring in labour.

### **6.2 Propess for patients having OP IOL – see appendix.**

## **7. Complications of IOL**

- Consider tocolysis for uterine hyperstimulation – terbutaline 250 mcg s/c once.
- If uterine rupture is suspected, deliver baby immediately by caesarean section.

## **8. Pain Relief**

Explain:-

- That induced labour is likely to be more painful than spontaneous labour.
- Different pain relief options in different settings.
- Provide support and pain relief appropriate for the woman and her pain.
- Encourage women to use their own coping strategies.
- Labouring in water is only possible for those who are labouring following the use of Proppess and have no other indication for CEFM (See IP guideline 31 Waterbirth).

See also Intrapartum guideline 20: Pain relief in labour.

## **9. Failure of IOL**

A documented individualised management plan, made in partnership with the woman, the midwife and the doctor, must be recorded in the patient health records where IOL has failed. Decisions about further management should be made in accordance with the woman's wishes, and should take into account the clinical circumstances.

## **10. Fetal surveillance in post-term pregnancies where IOL has been declined**

A documented individualised management plan, made in partnership with the woman, the midwife and the doctor, must be recorded in the patient health records where IOL is declined. The women should be counselled about the benefits of induction of labour verses waiting for spontaneous labour, this needs to be documented in the management plan in the antenatal notes by a senior obstetrician by term + 12 days; so a plan is in place for further fetal monitoring, the women should be supported with her decision.

From **42 weeks** women who decline IOL should be offered a combination of daily fetal movement counting, daily antenatal assessment and CTG together with twice weekly USS for amniotic fluid volume assessment.

## **11. Patient information and discussion**

Women must be afforded a documented discussion re: risks and benefits of IOL and be given an information booklet as soon as possible after the decision for IOL has been made in order to assist them in making the decision that is best for them. Where there are communication or language support needs assistance can be obtained via patient advice and liaison service (PALS) and interpretation services.

Healthcare professionals should explain the following points to women being offered induction of labour:

- the reasons for induction being offered
- when, where and how induction could be carried out
- the arrangements for support and pain relief (recognising that women are likely to find induced labour more painful than spontaneous labour)
- the alternative options if the woman chooses not to have induction of labour
- the risks and benefits of induction of labour in specific circumstances and the proposed induction methods
- that induction may not be successful and what the woman's options would be.
- Risks of uterine hyperstimulation
- Possible delays that may occur

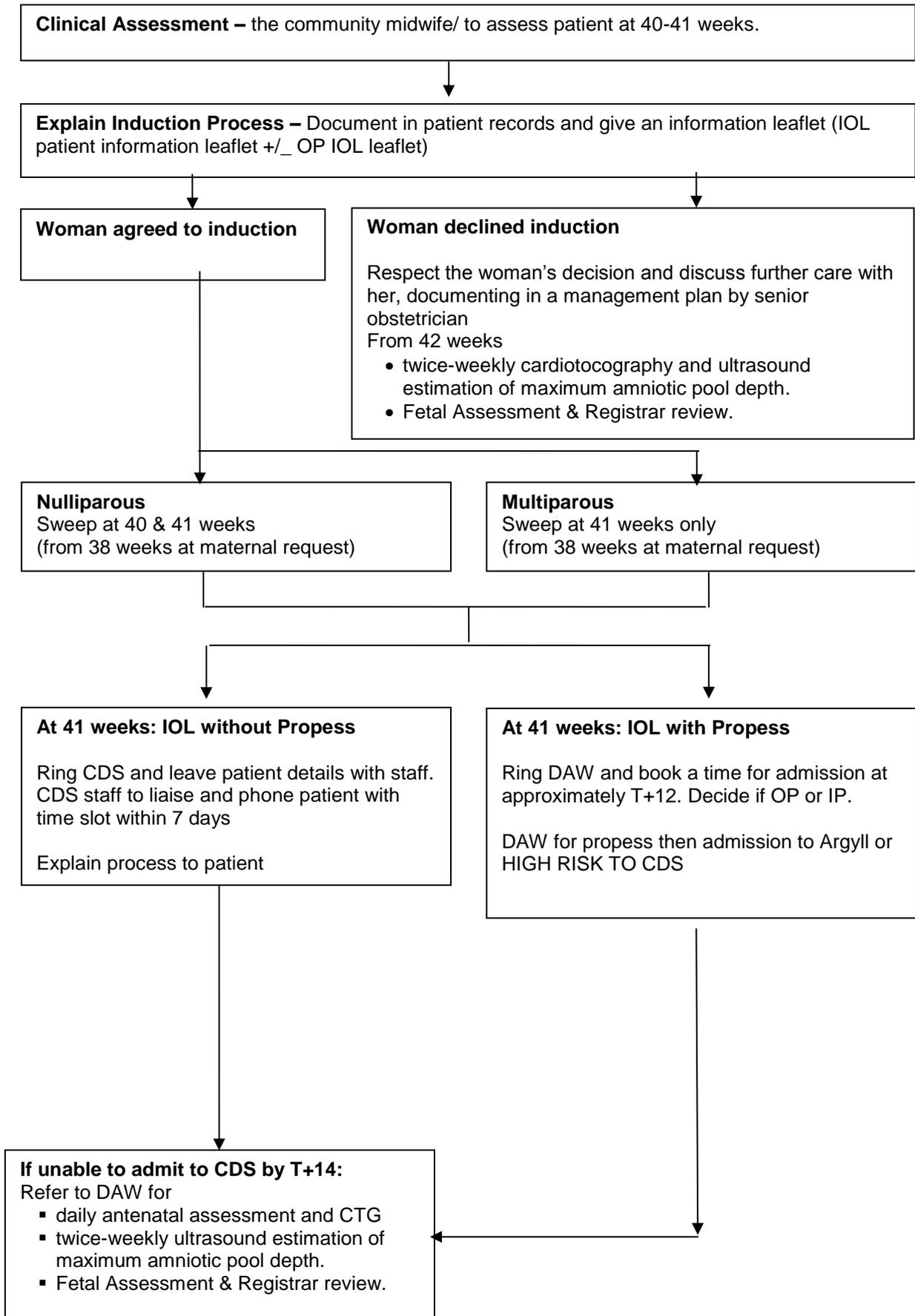
Healthcare professionals offering induction of labour should:

- allow the woman time to discuss the information with her partner before coming to a decision
- encourage the woman to look at a variety of sources of information
- invite the woman to ask questions, and encourage her to think about her options

### **13. Record keeping and documentation**

It is expected that every episode of care be recorded clearly, in chronological order and as contemporaneously as possible by all healthcare professionals as per Hospital Trust Policy. This is in keeping with standards set by professional colleges, i.e. NMC and RCOG. All entries must have the **date and time** together with **signature and printed name**.

Appendix 1



Appendix 2

**Bishop's scoring system – now replaced largely by the VE sticker.**  
This scoring system is still utilised in various situations such as OP IOL.

	0	1	2	3
<b>Position</b>	Post	Mid	Ant	
<b>Station</b>	-3	-2	-1	0
<b>Consistency</b>	Firm	Medium	Soft	
<b>Length cm.</b>	3	2	1	0
<b>Dilatation</b>	0	1-2	3-4	5+

Appendix 3

**Standard Operating Procedure: Use of Cervical Ripening Balloons as a method of induction of labour**

Prostaglandin induction of labour using Propess 10mg pessary is the standard induction agent used in PHNT. This agent is unlicensed for use in women wishing to be induced in labour following a previous Caesarean section.

The Cook Cervical Ripening (double) balloon (CCRB) is a double catheter device that is able to be inserted through a small and potentially closed cervical os. The uterine balloon is inflated with 50-80mls of sterile saline and pulled back. A second vaginal balloon is then inflated with the same quantity of fluid. The device aims to ripen the cervix over a 12-18 hour time period. After this time, or when the catheter falls out, it is usually possible to perform amniotomy and initiate induction with oxytocin infusion as per standard protocol.

The CCRB is also unlicensed for use in previous Caesarean section, however, its' use and safety in this process worldwide is encouraging. Importantly, it does not involve prostaglandin drugs and is not linked to hyperstimulation and thus avoids the need for continuous electronic monitoring during use.

Process for induction of labour using CCRB after previous Caesarean section:

1. Ensure woman has been informed of the risks and benefits of achieving vaginal birth in clinic and agrees to having vaginal birth after Caesarean (VBAC)
2. Decide a suitable date for initiating labour (routine will be term +10-12 days). Consider earlier induction if medical concerns are present
3. Book induction in CDS diary
4. Women should attend at 1600 onwards for insertion
5. Initially, a small group of trained clinicians will insert the CCRB device in CDS or Triage. If the fetal head is 4/5ths engaged or more then cervical ripening can be considered



6. Perform standard length pre-insertion CTG and brief post-insertion CTG, perform basic observations and history as per usual induction protocol
7. Book bed on Argyll ward for overnight stay with minimal need for CTG unless contracting
8. At 0600 onwards, Argyll ward to contact CDS coordinator with aim to bring woman to the CDS so that an out of hours induction can be avoided
9. The balloons should be deflated and the catheter removed
10. Amniotomy should be performed. The device has reported high success at achieving a favourable cervix for amniotomy.
11. The woman has a brief post amniotomy CTG and either sits up or mobilises for up to 2 hours
12. If no significant uterine activity results, oxytocin induction should commence under CEFM
13. It is the duty Obstetrician's decision for how long to continue oxytocin induction
14. Audit of numbers and success at VBAC induction using this new agent must commence

Note: The ideal length of time needed for CCRB ripening is 12-18 hours. It may expel naturally, indicating that amniotomy is possible. It is a single use device. Costs are equivalent to Propess and lower if you consider the lower midwifery input needed during the initial stages of the induction process.

Other potential uses:

1. Grand Multiparity (P4 or greater) – avoidance of Propess is recommended
2. Failed IOL with Propess - including prematurity complicated by in-utero demise (IUD)
3. Outpatient IOL is a potential service change once confidence is reached with in-patient use of the CCRB. It is envisaged that low risk women who have reached term +10-12 with no other risk factors could attend in the afternoon to DAW for CCRB insertion and go home to await labour or return the following day to CDS Triage to have catheter removal and amniotomy
4. Any high risk induction that would usually commence with Propess insertion on the CDS due to enhanced surveillance and midwifery input needs (e.g. SGA and IUGR) could receive CCRB (non-drug) induction and rest overnight on Argyll ward with minimal intervention and monitoring

## Appendix 4

### Out Patient (OP) IOL pathway

OP IOL will still be booked using the current system. If it has already been decided that this is likely to proceed as an OP IOL then this can be added to the details. The decision for an OP IOL can be made by a midwife, providing the patient is suitable.

The patient will be seen in Day Assessment Ward (DAW, Argyll at weekend) for a CTG; a full set of observations; abdominal palpation and urinalysis. They will be provided the opportunity to read the patient information leaflet on OP IOL if they have not already. They will be counselled and the discussion documented. Ensure that they are appropriate to undergo an OP IOL – check the exclusion criteria.

The admitting midwife can prescribe Propess from PGD if meets criteria or the Obstetrician will need to prescribe it. There will be no requirement to see a doctor.

The Bishops score will be determined and documented on vaginal examination sticker and Propess inserted.

Time of Propess insertion, parity and indication for IOL and patient phone number will be taken and the patient advised to return to Argyll ward 24 hours later unless there are concerns. The details must be passed to Argyll for every patient. These details will all be entered into a dedicated OP IOL diary which will not be removed from Argyll. This is in addition to the entry into the IOL diary.

Telephone contact numbers will be provided on the patient information leaflet.

Following Propess, the patient will be allowed home at 30 mins – check BP, HR, RR and FH prior to allowing home.

Any calls from the patient will be documented via maternity line. This information will form part of the audit and will need to include the time of call, the reason for call and the outcome of call.

All calls for advice will be via triage on the maternity line. Patients will readmitted directly to Argyll after 24 hours.

#### **Patients informed to call/come in if:**

- Bleeding more than show
- Rupture membranes
- Reduced fetal movements
- Need for analgesia (more than paracetamol)
- Anxiety or patient wishes to return
- Propess falls out
- Adverse reaction to Propess



**Patient exclusions:**

Gestational age <37 weeks or >41+6

Parity greater than 2 (we anticipate this may change to greater than 3)

Age under 18 or over 40 years at due date

Poor English (must be able to understand, communicate effectively and be able to read the patient information)

Multiple gestation

Malpresentation

Previous uterine surgery (including caesarean section, myomectomy and hysterotomy)

Previous precipitate delivery (labour less than 2 hours)

Ruptured membranes

SFH measuring under 10<sup>th</sup> centile on GROW chart or confirmed estimated fetal weight on ultrasound of less than 10<sup>th</sup> centile

Non reassuring pre-Propess CTG

Induction of labour due to maternal co-morbidities

Induction of labour due to fetal concerns

Lives over 30 minutes from hospital in traffic (allow the patient to judge this)

No phone

No responsible adult to stay with them

Lack of consent

Lack of comprehension/reading of OP IOL leaflet

Significant APH from 24 weeks (Obstetrician to decide)

Bishops score over 7 (a criteria which may be removed in the future)

Medical disorders which have led the patient to require consultant led care during the pregnancy (for example epilepsy, severe asthma, diabetes) – confirm with Obstetrician if uncertain

BMI over 35 or less than 18 at booking (may change in future)

Any contraindication to the use of Propess



## Audit

Every set of notes will be analysed for audit purposes, this will include the contact via maternity line.

### Checklist for OP IOL

<b>For completion at time of Propess insertion</b>
Confirmation that suitable for OP IOL
Verbal information given (document this in the hand held records)
Written information given (document this in the hand held records – read and understood)
Patients return location and time written on the patient information leaflet
Pre-Propess CTG and full set of observations recorded on MEOWS chart
Examination including bishops score documented
Post Propess (30 min) full set of observations recorded on MEOWS chart and FH recorded
Pass details to Argyll: Name, Hospital No, Parity, Indication for IOL Time of Propess insertion, Patient telephone number. Enter into OP IOL diary.
<b>For completion by midwife at delivery</b>
Provide patient satisfaction survey to patient, explain that it relates purely to the OP IOL

### Assessing suitability

<b>Gestational age</b>	37-41+6
<b>Indication</b>	IOL for reasons other than fetal or maternal compromise. E.g. post-dates, social reasons, SPD
<b>Maternal age</b>	>18 years, <40 years at EDD
<b>Language</b>	Fluent English
<b>Current Findings</b>	Singleton Cephalic 4/5 or more engaged SFH measures appropriate on GROW chart/recent scan confirming EFW >10 <sup>th</sup> centile Intact membranes Reassuring pre-Propess CTG Bishops score ≤7
<b>Past Obstetric/gynaecological History</b>	Para <3 No previous Caesarean section No previous uterine surgery No previous precipitate delivery Uncomplicated antenatal period (no APH/PET etc.)
<b>Past Medical History</b>	Well controlled asthma, thyroid diseases are suitable. If unsure, ask a Consultant.
<b>BMI</b>	>18 and <35 at booking
<b>Social</b>	Lives within 30 mins of hospital in traffic (patient can judge this), has transport, a phone and a responsible adult to stay with them at all times and has no complex social factors
<b>Patient consent (provide PIL)</b>	Verbal consent, document discussion and provision of leaflet with phone numbers added
<b>Allergies</b>	Exclude all who are allergic to Propess



## Monitoring and Audit

### Auditable standards:

IOL in prolonged pregnancy according to guideline  
IOL with previous LSCS according to guideline  
Maternal observations carried out during IOL prior to labour  
Fetal observations carried out during IOL prior to labour  
Process for dealing with maternal requests for IOL  
OP IOL outcomes

Please refer to audit tool, location: 'Maternity on cl2-file11', Guidelines

### Reports to:

Clinical Effectiveness Committee – responsible for action plan and implementation of recommendations from audit

### Frequency of audit:

Annual

### Responsible person:

Senior midwife

## Cross references

TRW/MMA/POL/271/5 Intravenous Drug Administration Policy  
TRW/MMA/POL/265/2 Policy for the Safe and Secure Handling of Medicines

Antenatal Guideline 31: Maternity Hand Held Notes, Hospital Records and Record Keeping  
Antenatal Guideline 44: Guideline development within the Maternity Services

Intrapartum Guideline 10: Fetal monitoring in labour  
Intrapartum Guideline 13: General principles of Intrapartum care  
Intrapartum Guideline 16: Management of second and third trimester termination of pregnancy  
Intrapartum Guideline 20: Pain relief in labour.  
Intrapartum Guideline 22: Pre-labour rupture of membranes at Term  
Intrapartum Guideline 31: Waterbirth

**References**

Bishop E.H. (1964) Pelvic scoring for elective induction. **Obstetrics and Gynaecology**. 24:266-268

National Institute For Health and Clinical Excellence, 2015 Guideline 3  
<https://www.nice.org.uk/guidance/ng3/resources/diabetes-in-pregnancy-management-from-preconception-to-the-postnatal-period-51038446021>

National Institute For Health and Clinical Excellence, 2008 Guideline 70 **Induction of Labour** . NICE London

<b>Author</b>	Rachel Marshall-Roberts, Alex Taylor		
<b>Work Address</b>	Maternity Unit, Derriford Hospital, Plymouth, Devon, PL6 8DH		
<b>Version</b>	9		
<b>Changes</b>	Avoid commencing high risk IOL late at night, more info on high risk inductions progress given regardless of bishop score Use of VE sticker SOP on cook SOP on OP IOL Use of Fresh eyes stickers		
<b>Date Ratified</b>	May 2017	<b>Valid Until Date</b>	May 2023

