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Greater Manchester & Eastern Cheshire Maternity Strategic Clinical Network

Induction of labour (IOL) Guidelines

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Document Control

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Contents

1 Introduction

Induction of labour (IOL) is an obstetric intervention and is the initiation of labour by artificial means. IOL can increase risks of intrapartum complications in some women and may place workload pressures on the delivery unit. Thus, it is only justified when there is greater benefit to the health of the mother and/or baby than if the pregnancy continues. Treatment and care should take into account women's individual needs and preferences.

This guideline is to describe the management of the induction of labour (IOL) by dinoprostone vaginal tablets/gel (Prostin®), dinoprostone vaginal insert (Propess®) and cervical ripening balloon (CRB). Unless there are specific circumstances where it should not be used as a first line agent (e.g. previous caesarean section, severe asthma), prostaglandins should be used to induce labour. The preparation selected for use may depend on unit preference and experience.

Information and Decision Making

Women who are having or being offered IOL should have the opportunity to make informed decisions about their care and treatment, in partnership with their healthcare professionals.

Information should cover the following:

- The indication for IOL (risks/benefits of not being induced).
- Where, when and how induction can be carried out.
- Arrangements for support and visiting times of birth partners.
- Risks and benefits of the chosen methods of induction of labour as outlined by this policy must be relayed prior to induction. Methods of pain relief should also be discussed. The patient should be signposted to further information resources as outlined in appendix 1.
- The alternative options if the woman chooses not to have IOL .i.e. expectant management. When a woman declines IOL an individual management plan should be developed to address further management; this must be clearly documented in the maternal notes. She should be given advice regarding who to contact should she change her mind.
- An explanation that IOL may not be successful and the subsequent options that would be available to her at that point. It should be discussed that IOL can be a lengthy process and that waiting for artificial rupture of membranes once that is deemed the next step – may be >24 hours.

Contraindications to IOL:

- Previous classical caesarean section/hysterectomy.
- Previous myomectomy breeching uterine cavity.
- Breech presentation.
- Absent/reversed fetal umbilical artery Doppler.
- Transverse/oblique lie.
- Active genital primary herpes.
- Invasive cervical cancer.
- Severe pelvic structural abnormalities.
- Placenta/vasa praevia.

2 Preceding IOL

2.1 Membrane Sweeps

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. If the cervix will not admit a finger, massaging around the cervix in the vaginal fornices may achieve a similar effect.

At the 38 week antenatal visit, all women should be offered information about the risks associated with pregnancies that last longer than 41 weeks and their options. Part of that discussion should involve an explanation of a membrane sweep. Explain when it is proposed this will occur that it makes spontaneous labour more likely, that it is not associated with an increase in maternal or neonatal infection, that it is associated with increased levels of discomfort when compared to a routine examination and that it may be associated with a small amount of bleeding.

A membrane sweep should then be offered prior to formal IOL:

- At the 40 and 41 week antenatal visits, nulliparous women should be offered a vaginal examination for membrane sweeping.
- At the 41 week antenatal visit, parous women should be offered a vaginal examination for membrane sweeping.
- If a vaginal examination is carried out at term to assess the cervix, the opportunity should be taken to offer the woman a membrane sweep.
- Additional membrane sweeping may be offered if labour does not start spontaneously.

Details of whether a membrane sweep was declined performed or not technically feasible must be recorded in the maternal records.

Healthcare professionals should always check for signs of a low lying placental site before membrane sweeping and before IOL (NICE, 2008).

3 Induction of Labour in Specific Circumstances

3.1 Prolonged pregnancy

Women with uncomplicated pregnancies should be given every opportunity to go into spontaneous labour. Women with uncomplicated pregnancies should be recommended IOL from 41 weeks (NICE 2008) to avoid the risks of prolonged pregnancy (increased perinatal mortality and morbidity including stillbirth). The exact timing should take into account the woman's preferences and local circumstances. Women are offered the choice to wait for labour to commence spontaneously (expectant management) or to have their labour induced. If an IOL is agreed the date offered should be between T+7-12. From T+14, women who decline induction of labour should be offered increased antenatal monitoring consisting of x2 weekly CTG. An ultrasound scan for growth and liquor volume estimation and umbilical artery Doppler should be performed at the point of declining IOL. If undelivered a further scan should be undertaken one week later. The woman should be informed that there is no evidence that such monitoring will reduce the risk of stillbirth and neonatal morbidity.

3.2 Preterm pre-labour rupture of membranes

If a woman has preterm pre-labour rupture of membranes, IOL should be carried out after 34 weeks unless there are additional obstetric indications (for example, infection or fetal compromise) to do so prior to this gestation. Timing of delivery thereafter is directed by the woman's named consultant or other designated obstetrician after

counselling of risks and benefits of intervention and conservative management. IOL in all circumstances is recommended by 37 weeks.

See guideline for the Management of Pre Labour Rupture of Membranes (PROM) before 37 weeks gestation.

3.3 Pre labour rupture of membranes at term

Women with pre-labour rupture of membranes at term (at or over 37 weeks) should be offered a choice of IOL with vaginal prostaglandin (One dose only of prostaglandin tablet/ gel or Propess. However, Propess should be used with caution in patients with ruptured membranes as the evidence is limited. Since the release of dinoprostone from the insert can be affected by the presence of amniotic fluid, special attention should be given to uterine activity and fetal condition) or expectant management (of approximately 24 hours) if there are no other obstetric concerns. See also Pre labour Spontaneous Rupture of Membranes (SROM) at Term (>37 weeks). At term, IOL is appropriate approximately 24 hours after pre labour rupture of the membranes.

3.4 Previous Caesarean section

See also guideline for Management of women wishing a vaginal birth after Caesarean section (VBAC) and those with a previous scarred uterus.

If induction is necessary, women who have had a previous Caesarean section should be offered;

- ARM as first line choice.
- CRB second line (depending on local availability).
- Prostaglandin third line.

This decision must be made by a consultant obstetrician. A care plan should be made taking into account the women's circumstances and wishes. The increased risks of caesarean section, uterine rupture and perinatal and maternal morbidity should be discussed and documented. Women should be aware that it is the use of prostaglandin that increases their risk of uterine rupture; with an additional increase should intravenous oxytocin (IVO) be required. Some women may choose to have an elective Caesarean section instead of induction of labour after counselling.

3.5 Maternal request

Ideally, IOL should not routinely be performed on maternal request alone. However, under exceptional circumstances induction may be considered at or after 40 weeks depending on individual circumstances. This should be a consultant decision. The discussion and subsequent plan must be documented in the maternal records.

3.6 Fetal Growth Restriction

Prostin®, Propess® or a cervical ripening balloon can be utilised in the IOL for fetal growth restriction. If there are any regular contractions (2 in 10 minutes or more) during the IOL process continuous monitoring should be utilised. If there is evidence of severe fetal compromise IOL should not be performed (non-reassuring CTG, absent or reversed umbilical artery Doppler flow).

Refer to regional Fetal Growth Restriction guidelines for timing of delivery.

3.7 Maternal Diabetes

The decision for IOL for women with maternal diabetes will be made by the obstetrician in consultation with the woman taking into account the woman's diabetic stability, hypoglycaemic agent usage, maternal and fetal well-being. See also Management of Gestational Diabetes Mellitus (GDM) and Management of antenatal, intrapartum and postnatal care for women with Pre-existing Diabetes.

3.8 Intrauterine death

Refer to Greater Manchester Still birth and Late Fetal Loss guideline.

3.9 Suspected fetal macrosomia, precipitate labour, pelvic girdle pain, polyhydramnios

Women with a history of suspected fetal macrosomia, precipitate labour, polyhydramnios or pelvic girdle pain should not routinely be induced. However, should a woman be requesting IOL, each case should be considered individually with a review by a consultant obstetrician.

3.10 Reduced fetal movements

Refer to regional guidelines on reduced fetal movements for indications and timing of IOL.

3.11 Advanced maternal age

The overall incidence of stillbirth is still low in women of advanced maternal age ≥40years (2:1000 at 39-40 weeks) but it is increased compared to women ≤35 years (1:1000). Thus IOL in these women should be offered after 39+0 weeks after careful counselling of the risks and benefits of IOL including the risk of failed IOL.

4 Process (including booking) and Methods of Induction of Labour (IOL)

4.1 Booking Arrangements for IOL

See Appendix 2.

4.2 Gestation at Which Induction of Labour Should Take Place

Ensure the estimated date of delivery (EDD) has been checked and that a reliable EDD is in place (i.e. a first scan at <16 weeks gestation). If there is not a reliable EDD, timing of IOL should always be a consultant decision.

The gestation at which IOL should take place is dependent on the following risk factors:

- Women with identified risk factors: the decision to induce labour for women who are high risk must be authorised by a consultant, including the agreed timing.
- Low risk women: a midwife may offer IOL for low risk women whose pregnancy is post mature between term +7 and term +12. All prostaglandins must be prescribed by a doctor.

4.3 Deciding the Appropriate Place for Induction of Labour

- If a member of staff is uncertain as to the planned location of the IOL, they should ask the woman's consultant, ward cover consultant or the consultant on call.

Table 1:

St Mary's Oxford Road Campus	**All inductions should be performed on the IOL bay on Ward 65 except those outlined in Section 5 below**
St Mary's Wythenshawe	**All inductions should be performed on ward C3 except those outlined in in Section 5 below**
PENNINE	**All inductions should be performed on the Ante-natal ward except those outlined in Section 5**
SHH	**All inductions are performed on the Delivery suite**
BFT	**All inductions are performed on ward M2 except those outlined in Section 5**

5 Indications for IOL That Require a Delivery Unit Location

- Any conditions that require additional maternal monitoring e.g. severe pre-eclampsia, significant APH, sepsis
- Any IOL in a patient with a care plan – both fetal and maternal medicine - where it is specified that the location for IOL should be delivery unit.
- Gestation <35 weeks
- Fetal death in utero

6 Risk Assessment Prior to Commencing IOL Process

6.1 Initial Assessment:

- Confirm indication for IOL.
- Confirm gestational age against the first ultrasound scan.
- Check appropriate location to commence IOL as per Table 1.
- For women under the care of a specialist clinic: confirm individual care plan.
- Assess whether a neonatal cot is required and if so inform the Newborn Intensive Care Unit (NICU) about the patient – see appendix 7.
- Ensure no contraindication to induction of labour with Propess®, Prostin® or CRB.
- Complete the Admission Risk booklet/admission paperwork.
- Maternal observations (MEWS) are to be performed on admission and should be documented on the admission risk booklet. See guideline for Maternity Early Warning Score (MEWS).
- For low risk women MEWS should be repeated once daily as a minimum.
- For high risk women a MEWS should be recorded at admission and thereafter to be repeated four-six hourly unless otherwise clinically indicated as per guideline for Maternity Early Warning Score (MEWS).
- If there is a change in the woman's clinical condition e.g. contractions/tightenings or maternal observations (MEWS) during the induction prior to the establishment of labour a CTG must also be commenced. An obstetrician should be informed if the CTG or observations are abnormal.

6.2 Prior to Administration of PROSTIN® or PROPESS® With Intact Membranes

- Check all the woman's medication is prescribed on the prescription chart in addition to Prostin®/Propess® and analgesia: if not bleep the junior doctor on call for the wards.
- Discuss the process of induction with the woman and confirm verbal consent. Check the placental site on last ultrasound scan and perform a VTE risk assessment.
- Ensure bladder has been emptied. Perform an abdominal palpation to confirm the fetal lie and presentation are longitudinal and cephalic.
- Confirm the woman has had no regular, painful uterine activity (2 in 10 minutes or more) or history of spontaneous rupture of membranes.
- Perform a pre Prostin®/Propess® CTG (minimum 30 minutes) before undertaking a vaginal examination and administration of Prostin® or Propess®.
- Obtain verbal consent for vaginal examination. With each administration of Prostin® or Propess® a Bishop score should be assessed as shown in Table 3.The score should be recorded on paper or the electronic notes depending on the individual unit.

6.3 Bishop Score of cervical favourability

Table 2:

CERVICAL SCORING	0	1	2	3
Dilation (cm)	**<1**	**1-2**	**2-4**	**>4**
Length (cm)	**>4**	**2-4**	**1-2**	**<1**
Consistency	**Firm**	**Average**		**Soft**
Position	**Posterior**		**Mid**	**Ant**
Station	**S -3**	**S-2**	**S-1/0**	**Below spines**

- If at any point in the induction process a woman experiences abdominal pains, tightenings or contractions, assessment of uterine activity should be made. If palpable uterine activity is occurring, pains are considered severe or there are other concerns, a CTG should be commenced to assess fetal wellbeing for twenty minutes, or until reassuring. If not reassuring seek medical attention from an obstetrician.

7 Methods of IOL

These can be divided into:

- Pharmacological
- Cervical ripening balloon (CRB)
- Amniotomy

7.1 Pharmacological methods

The preferred method of induction involves the use of vaginal prostaglandin (PGE2) (NICE 2008). This can either be administered as a repeated dose vaginal tablet or dinoprostone gel (will be referred to as Prostin® in this guideline) or as a slow release pessary over 24 hours (dinoprostone vaginal insert – will be referred to in this guideline as Propess®).

What is Prostin®?

Prostin® is dinoprostone vaginal tablet/gel that can be inserted into the vagina every six hours to a maximum of three doses.

What is Propess®?

Propess® is a slow release prostaglandin (dinoprostone, prostaglandin E2) delivery system. It is inserted vaginally into the posterior fornix and remains in situ for up to 24 hours as shown in appendix 3

Guide to using Prostin® and Propess®

Any maternal or fetal parameters which do not follow the standard IOL guidelines may affect the location, decision or method to induce and must be discussed with the woman's own consultant or designated substitute consultant.

Administration

Doctors and midwives who have received the appropriate training can administer dinoprostone vaginal tablets/gel (Prostin®) – see below or dinoprostone vaginal insert (Propess®) – see appendix 3.

A midwife can give Propess® and Prostin® after 37 weeks gestation. Any midwife who has only received the theoretical training can administer Prostin® or Propess® under either the supervision of a midwife trained in induction procedures or an ST3 or above.

Prostin® vaginal tablets:

- Prostin® vaginal tablets are given every 6 hours at a dose of 3mg each (irrespective of parity) up to a maximum of three doses. Once an ARM is possible that is the preferred step rather than more prostaglandin.

Prostin® Gel:

- Prostin® vaginal gel is given every 6 hours to a maximum of 3 doses. Once an ARM is possible that is the preferred step rather than more prostaglandin. The dosage regime for gel is different in primiparous and multiparous women due to the different initial dose:
  - Primiparous: 2mg Prostin®, 1mg Prostin®, 1mg Prostin® at six hourly intervals
  - Multiparous: 1mg Prostin®, 1mg Prostin®, 1mg Prostin® at six hourly intervals

General Guidance of Prostaglandin Administration (Tablets/Gel)

- Tightening / Contracting - "Prostin pains" are a common side effect of prostaglandin administration.
- Oral analgesia and TENS can be employed after maternal and fetal assessment. If additional pain relief is required a medical review should take place.
- The presence of regular, painful contractions/uterine activity is a relative contraindication to administration of Prostin® vaginal gel/tablet. If at point of assessment for Prostin® administration there are regular painful contractions discuss with an obstetrician (ST3 or above) whether delayed administration of Prostin® and reassessment in 2 hours or an ARM may be more appropriate.
- If there is no longer regular painful uterine activity and an ARM cannot be performed Prostin® may be administered if indicated as above.
- If regular painful uterine activity persists, assessment of cervical change must be made to diagnose onset of labour and/or to assess the need and favourability for an ARM. If in doubt, discuss with obstetric staff.
- The decision regarding a third dose of Prostin®, if the woman is still not suitable for ARM, must be discussed with the Registrar and/or consultant as to the appropriateness of administration of the third Prostin® vaginal gel/tablet.
- If ARM is possible, transfer to the Delivery Unit should be arranged as soon as possible.
- If the obstetric registrar is busy when an IOL patient requires their assistance, responsibility should be escalated to the consultant responsible for the delivery unit patients (will often be the same as the on call consultant) who will attend or organise an appropriate member of staff to attend and report back to the consultant. At MFT – Oxford Road site there is also an additional consultant on the wards Monday-Friday 08:30-16:30 (excluding bank holidays).

Propess

- See appendix 3 for guidance on administration of Propess

Outpatient IOL

- For outpatient IOL management please see separate guideline (currently only available at MFT – both sites Central and South- and BFT)

Prior to Administration of Prostin®/ Propess with SROM

- Confirm timing of SROM and evidence (e.g. liquor seen on speculum examination) and confirm the gestational age. Follow steps for maternal and fetal risk assessment during IOL.

If on admission the patient is contracting regularly (2 in 10 minutes or more) and is ≥3cm dilated and/or fully effaced cervix, DO NOT administer Prostin®. The delivery unit coordinator must be informed and the patient transferred to Delivery Unit for intravenous oxytocin.

7.2 Cervical Ripening Balloon (CRB)

The cervical ripening balloon (CRB) is a silicone double balloon catheter. It encourages gradual cervical dilatation by gentle and constant pressure on the cervix. It can be used for induction of labour at term when the cervix is unfavourable for ARM. For instructions on use refer to appendix 5.

It is indicated in non-labouring women at term with a singleton pregnancy, longitudinal lie, cephalic presentation, intact membranes, with an indication for induction of labour and no contraindications (see below).

The indications to use a CRB are:

- Women with one previous CS where ARM is not possible.
- Women with a FDIU where misoprostol/Prostin® has failed or multiple previous CS.
- Women where Propess® and Prostin® has failed.
- Women who are para 4 or more.

Table 3 - The contraindications for a CRB are:

- Severe IUGR.
- Polyhydramnios.
- Previous cervical tear.
- Presenting part above pelvic inlet.
- Pelvic structural abnormality.
- Multiple pregnancies.
- Prelabour rupture of membranes.
- Any contraindication to labour induction.
- Severe maternal hypertension.
- Unstable maternal cardiac disease.
- Use of Propess® or Prostin® is excluded when a CRB is in situ.

7.3 Amniotomy (ARM) and Intravenous Oxytocin (IVO)

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

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

- Women with SROM and evidence of chorioamnionitis.
- Women with SROM, with a cervix ≥3cm dilated and not contracting regularly.
- Women with Group B Streptococcus with pre-labour SROM.
- Women with a Bishop score 5 or more (see table 2) after ARM.

See also Oxytocin Intravenous Guideline for Induction and Augmentation of Labour.

In the event of a high presenting part the plan of care should be discussed with an ST3 or above or consultant obstetrician prior to ARM due to the increased risk of cord prolapse.

8 Fetal Observations During IOL

- Perform either Dawes Redman or 30 minute CTG (unit discretion) which must be classified as normal (all 4 features reassuring) prior to the administration of Prostin® or Propess® or a CRB. Either use a CTG classification sticker or classify on K2.
- If the midwife is unsure with regard to the Dawes Redman/CTG findings, obtain a second opinion from a senior midwife or obstetrician (ST3 or above). If there is any doubt as to whether to proceed with the IOL, contact the obstetric registrar or Consultant.
- Following the administration of Prostin® or Propess® or a CRB the Dawes Redman/CTG must remain in progress for a minimum of 30 minutes before being discontinued and should only be discontinued if normal (all 4 features reassuring). If a midwife is unsure, obtain a second opinion from a registrar (ST3 or above) or consultant. The women should remain semi-recumbent during this time.
- When repeated doses of Prostin® or Propess® are required a Dawes Redman/CTG must be done for 20 minutes before the prescribed medication is administered. Following administration the Dawes Redman/ CTG must remain in progress for a total of 30 minutes before being discontinued and should only be discontinued if normal (all 4 features reassuring), there is no evidence of regular uterine activity (2 contractions in 10 minutes or more) and provided there are no other clinical concerns. Any concerns regarding the Dawes Redman/CTG should escalate as previously described.
- A Dawes Redman/ CTG should be commenced if there is a change in the woman's clinical condition or maternal observations (MEWS) during IOL prior to the establishment of labour.
- If regular painful uterine activity (2 contractions in 10 minutes or more) a Dawes Redman/CTG must also be commenced to assess fetal well-being.
- As a routine the FH should be auscultated 4 hourly, except if the woman is asleep overnight and there are no prior concerns. A Dawes Redman/CTG should be repeated at a minimum of 12-14 hourly intervals during the IOL process in the absence of particular clinical scenarios that mandate such e.g. administration of prostaglandin, ante-partum haemorrhage. If there have been no prior concerns and the patient is asleep overnight, this can be deferred and performed on her waking, but the interval from last Dawes Redman/ CTG must be no more than 24 hours. If there is regular and painful uterine activity, increased analgesia requirements, reduced fetal movements or any clinical concerns Dawes Redman/CTG monitoring should be performed as soon as possible irrespective of the time of day/night and when the last Dawes Redman/ CTG tracing occurred.
- There should be a daily obstetric review whilst the woman is on the ante-natal ward to ascertain if there is any reason for fetal monitoring to be increased.

9 Labour Following Prostin® or Propress® for Post Maturity

Provided that post maturity was the only indication for IOL, if a woman labours following the insertion of Prostin® or Propess® and is otherwise low risk, consideration can be made to continue labour on the Midwifery Led Unit. See the Care in Labour guideline.

Once contractions begin and fetal well-being has been confirmed by a normal CTG (this must be performed prior to admission to the midwifery led unit if that is the planned place of transfer), unless there are indications for continuous electronic fetal monitoring, intermittent auscultation of the fetal heart may be an acceptable option should the woman wish.

10 Transfer to Delivery Unit for Artificial Rupture of Membranes

On transfer to the Delivery Unit:

- Once the hand over is complete, the assigned midwife should artificially rupture the patient's membranes' as soon as possible after transfer, if SROM has not already occurred
- If an ARM is performed, intravenous oxytocin may be started immediately (if there are no regular contractions present and particularly in a primiparous woman) or it may be appropriate to allow 2-4 hours to see if labour establishes (more usually in a multiparous woman). This can be addressed on an individual basis, after discussion with the on call obstetric registrar or the consultant covering the delivery unit taking into accounts the woman's preference. Discussion should take place with the on-call obstetric consultant regarding a plan for intravenous oxytocin ® in women with a previous caesarean section. In multiparous women if they are in established labour the decision to commence intravenous oxytocin should also be discussed with a consultant (for further guidance see intravenous oxytocin guidelines).

11 Complications of IOL

11.1 Uterine Hyper stimulation:

- Tachysystole is defined as >5 contractions in 10 minutes for at least 20 minutes.
- Hypertonic uterine contraction is defined as painful sustained uterine contraction for >90 seconds.
- Hyper stimulation = tachysystole or hypertonic uterine contraction PLUS evidence of fetal compromise (i.e. a suspicious or pathological fetal heart rate pattern).
- If tachysystole or hypertonic uterine contraction is suspected, commence a CTG immediately.

11.2 Management of hyperstimulation:

- Commence continuous CTG
- Summon help (emergency buzzer if necessary) - senior midwife and obstetrician (ST3 and above) and arrange transfer to the Delivery Unit.
- If Propess® in situ, remove immediately if CTG pathological. If the CTG is suspicious consideration should be given to removal of Propess®.
- In the context of an abnormal CTG, tocolysis is necessary.
- Tocolysis is given as terbutaline 250mcg subcutaneous injection.
- Transfer to Delivery unit for closer monitoring and Consultant led decision regarding ongoing IOL/delivery pathway.

12 When IOL fails

When Induction of Labour Fails i.e. if ARM Is Not Possible After Initial Induction Method:

If induction fails the maternal and fetal condition and the pregnancy in general should be fully reassessed including a CTG. An individual patient management plan must be developed following discussion with the woman and the obstetric team (ST3 and above). There would be an expectation that there would be Consultant Obstetrician input into the plan and that this would be documented in the maternal records.

The subsequent management options include:

If after 3 doses of Prostin® vaginal tablets or gel, and when 6 hours has elapsed after the final dose, if the cervix remains unfavourable and ARM is not a feasible option, the options are:-

(a) A rest day (this can be at home on occasion after consultant assessment).
(b) Use of 1 further dose of Prostin® vaginal tablets/gel – Consultant decision only.
(c) Use of CRB.
(d) Elective Caesarean section (aim to achieve within 24 hours of decision).

12.1 Failed induction with Propess®:

If after 24 hours Propess®, the cervix remains unfavourable and ARM is not a feasible option, the options are:-

(a) Use of second Propess.
(b) Use of Prostin® vaginal tablet (up to 2 doses) to commence immediately using the normal regime: 3mg 6 hours apart.
(c) CRB.
(d) Elective Caesarean section (aim to achieve within 24 hours).

13 Operational Aspects of IOL Patients

13.1 Medical Review on IOL bay/ward

The IOL bay/rooms should be visited at least once in 24hrs by an Obstetrician (ST3 and above) but ideally Consultant grade– ward round consultant or consultant on call. The aim of this visit is to prioritise all women waiting to commence IOL, to review verbally with the IOL midwife all the current patients and planned admissions to the IOL bay/ward, to review any women where the midwives have concerns and to prioritise the women awaiting ARM or IV oxytocin.

13.2 Management of ARM List

For logistical management of women awaiting transfer to DU at each site see Appendix 6

13.3 Delay in continuation of IOL process

When a woman has started on an IOL pathway, a decision to delay or suspend IOL should only be taken by the consultant obstetrician on call and midwifery matron on call. Further Prostin should not be withheld due to service and capacity issues other than in exceptional circumstances.

13.4 Delay in facilitation of ARM

If planned transfers to delivery unit are affected by availability of beds, the following protocol should be followed:

- Any women in the IOL bay/rooms waiting for a bed on the delivery unit should be reviewed to see if they require transfer or an assessment as to whether they can wait at home. This decision must be made by a consultant obstetrician and should only be considered for women who only require once daily MEWS and CTG. Whilst waiting they should be seen and maternal and fetal wellbeing confirmed daily in the antenatal assessment unit/ IOL area.
- The consultant on call / senior obstetrician should assess and prioritise the outstanding ARM list (those awaiting transfer to DU). The priority list must be reviewed at least daily.
- Fetal and maternal surveillance in this time period should be individualised and planned by senior obstetrician/ Consultant.
- For MFT Oxford Road site - Women undergoing induction of labour for indications not requiring tertiary care and for whom transfer to delivery unit is likely to take longer than clinically appropriate due to restricted capacity (for most women this may be up to 48 hours), should have a discussion with the Consultant Obstetrician regarding the choice to transfer to an alternative maternity provider. This discussion and the outcome must be documented in the woman's hospital records'.

14 Appendices

14.1 Appendix 1: – Signposting patients to information

Each unit inserts own instructions here

14.2 Appendix 2: Procedure for booking a bed for induction either on induction of labour (IOL) bay or delivery unit

Each unit inserts own instructions here

14.3 Appendix 3 - Propess® insertion

- Remove Propess® from the freezer. It should not be left at room temperature for more than 20 minutes prior to insertion.
- Prior to insertion, ensure no contraindications to induction of labour; perform maternal observations and a pre- Propess® CTG of minimum 20minute duration.
- Provided the CTG is normal and cervical assessment demonstrates Bishops score<6 (Table 2) proceed with insertion of Propess®.
- Holding the Propess® between middle and index fingers, place pessary high into the posterior vaginal fornix as shown in pictures below. Hibitane cream should be avoided.
- Using the examining fingers, adjust the position of the pessary so that it lies horizontally in the posterior fornix behind the cervix.
- Gently withdraw fingers from the vagina, leaving the Propess®.
- The string can be trimmed to reduce chances of the pessary being inadvertently pulled out, but must be left long enough for easy intentional removal.

It is reasonable to request that women inform the midwife if any of the following occurs, prompt detection remains the responsibility of the midwife:

- Regular (2:10) painful contractions or tightenings.
- Rupture of membranes.
- Vaginal bleeding.
- Propess® falls out.
- Although it is possible to bathe/shower and use the toilet with Propess® in situ, women must be discouraged from pulling the string as this can lead to inadvertent removal.
- The Propess® should remain in situ for up to 24 hours. After this time the midwife should remove the Propess® and assess suitability for ARM.

If Propess® falls out of the vagina:

- If it does not touch contaminated surfaces, the same Propess® can be re-inserted. In all other circumstances a new Propess® should be inserted.
- After re-insertion, a CTG should be performed for a minimum of 20 minutes and only discontinued if deemed normal.
- If a new Propess® is required, the time that the initial Propess® and the 2nd Propess® are insitu must not amount to >24 hours (combined insertion times).

Regular contractions (>2 in 10 minutes) with Propess® in situ

- Commence CTG.
- Assess cervix and if >3cm dilated arrange transfer to Delivery unit with Propess® in situ.
- If< 3cm, Propess® can remain in situ but if reassessed 4 hours later and adequate first stage progress has not been made, Propess® should be removed and 30 minutes later ARM performed and syntocinon commenced.

SROM with Propess® in situ:

- Commence CTG for minimum of 40 minutes and only discontinue if deemed normal.
- Perform vaginal and abdominal examination to determine contraction frequency and cervical dilatation.
- Propess® can be left in situ if not regularly contracting and cervical dilatation <3cm.
- If labouring (cervix >3cm dilated and regular contractions) Propess® can be left in situ and arrangements made for transfer to delivery unit.

Tightening, Contracting or requiring additional analgesia:

- Commence CTG for minimum of 40 minutes and only discontinue is deemed normal.
- Perform a VE.
- If labour is established (regular uterine contractions and cervical dilatation >3cm) Propess® can remain in situ, transfer to Delivery unit and consideration given to ARM if required.
- If labour is not established, Propess® should be left in situ and vaginal examination carried out 4 hours later (sooner if clinically indicated).
- In the presence of a uterine scar, assess for scar pain, bleeding and maternal wellbeing and summon medical review as appropriate.
- Propess® removal.
- Propess® must be removed 24 hours after insertion (sooner if clinically indicated as above). To remove Propess®, apply gentle traction on the string. Document time and date of removal in woman's notes and on the prescription chart.
- An ARM can be performed immediately after Propess® removal, Oxytocin can be commenced a minimum of 30 minutes after Propess® removal.
- Refer to guideline for Oxytocin Intravenous Guideline for Induction and Augmentation of Labour.
- If a patient suffers from nausea, vomiting, diarrhoea, fever, hypotension, vaginal irritation or oedema it may be a reaction to the Propess and it should be removed and an obstetrician called to assess the woman.

14.4 Appendix 4: Cervical Ripening Balloon (CRB) Instructions

Prior to use:

1. Confirm term, singleton, longitudinal lie, cephalic presentation, intact membranes.
2. A CTG should be performed for 30 minutes before CRB insertion.
3. An abdominal palpation should be performed to ensure the fetus is cephalic and the head is engaged.
4. A VE should be performed to determine if ARM is possible and to calculate the Bishop's score by an appropriately trained member of staff who should insert the CRB, if ARM is not possible.

Insertion of balloon:

1. Perform vaginal examination.
2. Hold the CRB with the left hand and insert into cervix by siding along the fingers of your right hand and advance until both balloons have entered the cervical canal.
3. Inflate the uterine balloon with 40ml normal saline through the red Check-Flo valve (U).
4. Once inflated, pull back until the uterine balloon is against the internal cervical os.
5. When the vaginal balloon is visible outside the external cervical os, inflate with 20ml normal saline through the green Check-Flo valve (V).
6. Once the balloons are situated on each side of the cervix, add more fluid in 20ml increments until each balloon contains 80ml (maximum).

Alternatively:

If the cervix is very posterior or unfavourable, balloon insertion may be difficult:

1. Place the patient in lithotomy position.
2. Insert a speculum to visualise the cervix.
3. Grasp the catheter with sponge holders and insert the device into the cervix (4-7) as above.

After insertion:

1. A post-procedure CTG should be performed for 30 minutes.
2. If reassuring, discontinue, encourage the woman to mobilise.

Removal (after 12 hours):

1. Perform a CTG 11½ hours following insertion for at least 30 minutes.
2. The midwife should deflate the balloons (removing 80ml from both the uterine and vaginal balloons) and remove 12hrs after insertion.
3. Perform a VE to assess suitability for ARM.
4. If suitable for ARM, transfer to Delivery Unit for ARM and/or oxytocin.
5. If unsuitable for ARM, the patient should be reviewed by the consultant on call or a ST3 doctor or above.

Issues following CRB insertion:

- If the balloon falls out, this would imply that the cervix has dilated. Perform a VE to confirm ARM is possible, and transfer to the delivery unit when possible.
- If SROM occurs, deflate both the balloons and remove the catheter. Do a VE to assess the cervix. Transfer to the delivery unit if in labour. If does not labour spontaneously, transfer to the delivery unit 6 hrs after SROM for syntocinon.
- If bleeding (significant bleeding, not just a show) occurs, the woman should be reviewed by a doctor. A CTG should be commenced and consideration should be given to deflating both the balloons and removing the catheter.
- If the woman is in significant constant discomfort (i.e. not contractions) following the balloon insertion, consideration can be given to deflating the balloons slightly. It is important to document the amount removed from the balloons when they are removed.

If ARM is not possible following CRB and having been assessed by a ST3 or above (and discussed with a consultant), the following options should be discussed with the woman:

- Rest period of 12 hours, and then repeat attempt at CRB.
- Rest period of 12 hours, and then insert a maximum of 2 doses of Prostin (minimum 6 hours apart) or 1 Propess. The increased risk of uterine rupture with the use of prostaglandin in women with a previous Caesarean section should be re-discussed when this option is given.
- Elective Caesarean section (this should be done within the next 24 hours).

CRB insertion not possible

If the CRB cannot be inserted either digitally or by using a speculum, the options include:

- Repeat examination and attempt by consultant on call if initial attempt by ST5 doctor or above.
- Use of Propess®. See Appendix 3.

14.5 Appendix 6: Management of Women Awaiting Transfer to DU for ARM

Each unit inserts own instructions here.

14.6 Appendix 7: How to contact the neonatal unit

Each unit inserts own instructions here.