Induction of Labour

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Authors Name:	Anja Johansen-Bibby, Shaan Meeda		
Authors Job Title:	Consultant Obs & Gynae, Practice Retention Midwife		
Authors Division:	Women's Health		
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Guideline to be followed by (target staff): All Maternity Staff

To be read in conjunction with the following documents:
Antenatal Care Pathway
Care in Labour

Are there any eCARE implications? Yes

CQC Fundamental standards:
Regulation 9 – person centered care
Regulation 10 – dignity and respect
Regulation 11 – Need for consent
Regulation 12 – Safe care and treatment
Regulation 13 – Safeguarding service users from abuse and improper treatment
Regulation 14 – Meeting nutritional and hydration needs
Regulation 15 – Premises and equipment
Regulation 16 – Receiving and acting on complaints
Regulation 17 – Good governance
Regulation 18 – Staffing
Regulation 19 – Fit and proper

Disclaimer -

Since every patient's history is different, and even the most exhaustive sources of information cannot cover every possible eventuality, you should be aware that all information is provided in this document on the basis that the healthcare professionals responsible for patient care will retain full and sole responsibility for decisions relating to patient care; the document is intended to supplement, not substitute for, the expertise and judgment of physicians, pharmacists or other healthcare professionals and should not be taken as an indication of suitability of a particular treatment for a particular individual.

The ultimate responsibility for the use of the guideline, dosage of drugs and correct following of instructions as well as the interpretation of the published material **lies solely with you** as the medical practitioner.

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Guideline Statement

Induction of labour is a common obstetric intervention to initiate and establish labour. The aim of induction is to induce uterine contractions leading to progressive effacement and dilatation of the cervix and birth of the baby. Various methods can be used to initiate established labour including mechanical dilatation of the cervix, cervical ripening with prostaglandins, artificial rupture of membranes and use of synthetic oxytocin (syntocinon). Membrane sweeping can be offered prior to intervention and may reduce the need for induction.

Induction of labour is a major intervention in pregnancy. It may affect the options surrounding birth preferences and impact on a woman's experience of birth. It requires informed consent and full discussion of the risks and benefits of ending the pregnancy and how this may affect the birth. There is also an impact on work - load in any maternity department.

This guideline provides advice for health professionals on induction of labour and the recommended pathway and is based on NICE Induction of Labour guideline 2021.

In this guideline, we use the terms woman and women as well as maternity service user. We acknowledge however that some people who do not identify as women will use our services. We aim to give all those who access the maternity service, appropriate, inclusive and care sensitive to their preferred gender identity.

Definitions

Induction: The process of starting labour medically
Stimulation: The process of inducing contractions when rupture of membranes (ROM) has occurred pre-labour
Augmentation: The correction of inefficient uterine action once labour has started

Objectives

- To discuss the process of induction of labour both as outpatient and inpatient
- To outline general standards for timing of inductions
- To outline plans when IOL is declined
- To discuss the use of balloon catheter in women with previous c/s.
- To ensure the development of an action plan when IOL fails

Executive Summary

- Induction of labour (IOL) is an intervention to initiate cervical ripening followed by uterine contractions and ultimately establish labour to lead to birth
- During antenatal visits with the midwife, information is offered about prolonged pregnancy and options for intervention discussed
- Any doctor offering induction of labour should discuss the reasons, benefits and risks of the intervention as well as the process itself
- Induction of labour is commenced with either Dinoprostone (Prostin gel, pessary or Propess vaginal device) or mechanical method (Cook's Balloon (CCRB) or Foley's catheter) or artificial rupture of membranes if the Bishops Score >7.
- The option of an Outpatient induction of labour (for Audit) can be offered in some pregnancies with clear guidance on when to return to the maternity unit.

1.0 Roles and Responsibilities:

Obstetricians:
Provide information regarding process of induction of labour and when considered a necessary intervention
Explain the benefits and risks of the intervention, as well as the options for expectant management
Communicate with the midwife to arrange for a membrane sweep of the cervix when indicated
Communicate with the team booking the induction
Prescribe prostaglandins, insert / remove balloon catheter, review induction progress as clinically indicated and review management plan where induction of labour is unsuccessful

Midwives:
Provide information regarding process of induction of labour
Explain the benefits and risks of the intervention, as well as the options for expectant management in women with an uncomplicated pregnancy progressing beyond 41 weeks gestation
Perform membrane sweep from 39 weeks or before if requested Initiate induction of labour by administering prescribed medications

2.0 Implementation and dissemination of document

Guideline to be published on Intranet.
All medical staff (ST3 or above) will undergo training for using mechanical methods of induction
Training for midwifery staff to insert Foley's catheter for mechanical induction.
Aim to have a bed in ADAU with appropriate equipment to facilitate balloon Outpatient induction
Company representative will come to train both doctors and midwives for Cook's Cervical Ripening Balloon (CCRB – licensed for use) to aim to start using these in preference to Foley's catheters.

3.0 Processes and procedures

3. 1 Enabling an informed choice about induction and membrane sweeps

- Induction should be brought up with the community midwife in the third trimester and re-discussed at the birth preferences appointment
- All maternity service users being offer an induction of labour should have a comprehensive discussion regarding reasons for why induction is being offered, the process of induction, benefits and risks of the procedure.
- Women should be encouraged to ask questions and should be supported in the decisions they make.
- The option of expectant management should be discussed and a plan made if this is the chosen pathway
- All information should be personalised and be in verbal and written format, supported with an information leaflet
- Membrane sweeps can be routinely offered from 39 weeks by the midwifery team, or earlier if the obstetric team discusses the benefits or risks. Ensure the placental position is away from the cervix prior to any membrane sweep. Explain to woman they may experience some discomfort and some vaginal bleeding after a sweep
- Outpatient induction can be offered to some maternity service users using mechanical methods (Foleys catheter or Cooks balloon) or Propess prostaglandins, via ADAU should they wish. Clear discussion regarding when to come back to the hospital needs to be supported with a written leaflet
- Pregnancies with complications or potential complications should be considered as high risk inductions and should take place in an in-patient setting; commencing on the maternity ward or in specific cases on the labour ward. A clear management plan must be documented in the maternity notes/eCare.
- A maternity service user can decide to delay, decline or stop induction at any point. Record the decision and discuss management plans moving forward
- Prior to any induction process the possibility of failure of induction should be discussed.

3.2 Suitability for Outpatient induction

Patients who could be offered Outpatient induction are listed below;

- Midwife-led care (low risk) woman for post dates induction $\geq$ 41+0
- Maternal request $\geq$ 39+0
- Maternal age > 40years with normal fetal growth $\geq$ 39 – 40 weeks
- IVF pregnancy (with own oocytes) and normal fetal growth $\geq$ 39 – 40 weeks
- Gestational diabetes – diet controlled with normal growth $\geq$ 40 weeks
- Large for gestational age – no polyhydramnios, no GDM $\geq$ 39 – 40 weeks

The option of outpatient induction may be discussed with all maternity service users and the reasons for offering either outpatient or inpatient induction explained. If the observations of mother and fetus are not reassuring or the woman is concerned about going home, there is always an option of admission for an in-patient induction.

Similarly, the clinician involved in the care should discuss outpatient induction suitability, however they may consider that, on an individual basis that the woman should on balance, have an inpatient induction.

Those opting for an Outpatient induction should fulfill the following:

- Age 18 or over and has birthing partner who can be with them during the 24 hours
- Woman has own transport available and is in easy reach of the hospital.
- Patient has a telephone and can communicate easily with clinical maternity staff.
- Understands the outpatient process and happy to go proceed
- Number of previous births less than or equal to four.
- No significant safeguarding concerns in the pregnancy
- Reassuring pre and post induction fetal heart rate monitoring.
- Pregnancies likely to be offered in-patient induction
- Multiple gestation
- Malpresentation requiring controlled rupture of membranes
- Previous uterine surgery (including caesarean section, myomectomy and hysterotomy)
- Previous precipitate delivery (labour less than 2 hours – confirmed by EDM record)
- Significant APH during pregnancy
- Medical co-morbidities eg hypertension or pre-existing diabetes, gestational diabetes on insulin
- BMI over 40 or less than 18 at booking

3.3 Booking induction of labour

When booking an induction of labour, use the electronic 'Communicate' function on eCare so an electronic document is visible in the notes. This allows the clinician to indicate whether this is for an in-patient or out-patient induction.

Prior to booking IOL confirm that the gestational age from an early pregnancy scan.

The maternity service users will be contacted to confirm the date of the induction, allowing the team to allocate dependent on workload, aiming for a maximum of 3 patients each day.

Ensure the maternity service user has received a Patient Information Leaflet regarding Induction of Labour particular for that person gender preferences.

If the woman does not require cervical ripening as her Bishops Score $\geq$7, the ANC/ADAU Team will inform Labour Ward so that they can be admitted directly without admission to Ward 9.

If the maternity service user is booked for an Outpatient induction – ADAU will be informed by the ANC Team.

3.4 Individual management plan when induction of labour is declined

- Any potential risks of not being induced should be discussed and documented.
- An individual management plan by the obstetric registrar/consultant should be made which may include review in ADAU for electronic fetal monitoring wellbeing, and/or additional growth scans with umbilical doppler
- For women who decline induction after 42 weeks, the plan should include:
  - electronic fetal monitoring on alternate days in ADAU after 42 weeks gestation
  - with twice weekly ultrasound scans for liquor volume and umbilical artery dopplers.
- The woman should be offered an appointment with a consultant obstetrician and if appropriate referral to a Birth Choices Clinic for discussion regarding her options.

It needs to be explained that this additional monitoring may not prevent adverse outcomes even if the monitoring is normal.

3.5 Induction of labour in specific circumstances

3.5.1 Prolonged uncomplicated pregnancy

- Women should be given every opportunity to go into labour spontaneously.
- During the third trimester, there should be discussion regarding the risks associated with pregnancies continuing beyond 41+0 weeks gestation (listed below) and the option of induction of labour.

  -> Increased likelihood of Caesarean
  -> Increased likelihood of admission to Neonatal Unit -> Increased likelihood of stillbirth and neonatal death

- Women should be aware that these risks may be higher for some ethnic groups and socially deprived women, and so these women can have an earlier induction if required.
- Women can be offered membrane sweeps from 39+0 weeks
- Outpatient induction can be offered from 41+0 weeks depending on preference

3.5.2 Preterm pre-labour rupture of membranes <37 weeks

If a woman has preterm pre-labour rupture of membranes, induction of labour should not be carried out before 34 weeks unless there are additional obstetric indications (for example, infection or fetal compromise).

The option of induction can be discussed after 34 weeks and should be offered immediately in the presence of Group B Streptococcus found during this index pregnancy (See Group B Strept. guidelines).

Expectant management can be offered until 37+0 in the absence of GBS and other concerns with ADAU outpatient monitoring twice weekly. (See Preterm Pre-Labour Rupture of Membranes guidelines).

At 37+0 weeks, augmentation can be offered, with or without prostaglandin dependent on cervical findings. If the BS is <7, a single 3g prostin tablet can be offered or immediate augmentation with oxytocin.

3.5.3 Pre-labour rupture of membranes at term (at or over 37 weeks gestation)

- Women with pre-labour rupture of membranes at term (≥ 37+0 weeks) should be offered a choice of immediate induction of labour with oxytocin augmentation with or without vaginal PGE_2 if BS <7 or expectant management for 24 hours.
- If BS < 7, a single dose of prostin can be offered, with oxytocin commenced after, at least, 6 hours from administration
- Augmentation with oxytocin, if accepted, should commence within 36 hours of confirmed rupture of membranes.
- If GBS has been found during the pregnancy, offer immediate augmentation without prostin with appropriate intrapartum antibiotics (See GBS guidelines)
- If the woman chooses to wait for more than 24 hours, the potential of developing infection needs to be discussed with the woman and management plan including timing of monitoring should be documented

3.5.4 Previous caesarean section

- The decision to induce labour if a woman has had a previous caesarean section should be made by a consultant obstetrician after discussion, due to:

  -> Increased chance of needing Emergency Caesarean (1 in 4 chance)
  -> Increased chance of uterine rupture (1 in 100 chance)

- A clear documented plan should be made regarding the use of oxytocin in the antenatal plan.
- Women who have had a previous LSCS may be offered induction of labour with mechanical cervical ripening
- The option of a planned elective repeat caesarean should be offered
- If the woman chooses expectant management, a plan should be documented regarding post term induction
- Labour is strongly discouraged if a woman has had a previous classical uterine caesarean section or significant previous uterine surgery due to significantly higher risk of rupture.

3.5.5 Multiple Pregnancy

- Please refer to induction of labour guidance within the Multiple Pregnancy and Birth Guideline.

3.5.6 Breech presentation

- Induction of labour is not routinely recommended if the baby is presenting in a breech position.
- If external cephalic version is unsuccessful, declined or contra-indicated and the woman declines a caesarean section and if delivery is indicated, a Consultant Obstetrician should discuss and clearly document the risks and benefits of induction or expectant management.

3.5.7 Fetal growth restriction

- If there is severe fetal growth restriction with confirmed fetal compromise, Caesarean birth should be offered.

- Suspected small gestational age fetus (if <3rd centile) consider whether induction should be on Labour ward instead of Ward 9.

3.5.8 Suspected fetal macrosomia

- For women with a baby measuring > 95th centile without diabetes, the options for birth are expectant management, offering induction of labour or birth by Caesarean.

- Induction of labour at term can reduce the chance of shoulder dystocia (overall risk 6.8% with expectant, 4% with IOL) but increase the chance of severe perinatal tearing 3rd and 4th degree (overall risk 0.6% with expectant, 2% with IOL). Refer to appendix 2.

- Explain there is no change between expectant or induction in terms of brachial plexus injury or perinatal death.

3.5.9 Intrauterine fetal death

Please refer to Care for Stillbirth, Termination of Pregnancy, and Neonatal Death after 24/40 Gestation guideline.

- Offer expectant, induction or Caesarean birth in those who have experienced fetal intra-uterine death

3.5.10 Maternal diabetes

- Please refer to Maternal Diabetes guidelines

- Women with pre-existing diabetes who have a normally grown fetus should be offered birth through elective induction of labour, or by elective caesarean section if indicated, prior to 39+0 completed weeks.

- Women with gestational diabetes should be offered the opportunity for spontaneous birth however should have their baby by 40+6 weeks.

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

- Women with diabetes who have an ultrasound-diagnosed macrosomic fetus should be informed of the risks and benefits of vaginal birth, induction of labour and caesarean section.

3.5.11 Advanced Maternal Age

- There is evidence that the rate of stillbirth for a woman > 40 years at 39 weeks, is equivalent to the risk of stillbirth of a young woman (<35years) at 41 weeks.
- Induction can be offered for woman aged 40 years and above, between 39-40 weeks in otherwise uncomplicated pregnancy
- Earlier delivery (before 39 weeks) may be offered for extreme advanced maternal age (> 45 years)

3.6 Starting Induction of Labour

All women will require a clinical review enquiring about contractions, vaginal loss and fetal movements, routine observations, fetal monitoring, abdominal palpation and a cervical assessment prior to induction.

Vaginal examination requires verbal consent and the Bishops Score (see Appendix 1) should be recorded on eCare.

The obstetric team should be asked to prescribe prostaglandins before administration together with regularly used medications (anti-emetics, paracetamol, dihydrocodeine and pethidine).

ECare documentation prior to starting **ANY** induction:

- Indication for Induction
- Gestational age
- Maternal observations (temp, pulse, resp rate, BP, oxygen sats, MEOWS score)
- Abdominal examination (fetal lie, presentation and engagement)
- Bishops score
- CTG classification before induction
- Time administration of prostaglandin or insertion of balloon.
- CTG post administration of prostaglandins/insertion of balloon for 30 - 60 mins

If the woman has no evidence of contractions or vaginal loss, electronic fetal monitoring using the Dawes – Redman criteria can confirm fetal wellbeing **prior** to starting any induction of labour. The Dawes – Redman criteria can NOT be used after the start of induction.

Any concerns with the CTG should be escalated to the Obstetric Registrar/ Consultant and consideration for expediting birth made. Further interventions should not start until this review and further discussion regarding management plan.

If the woman is experiencing uterine contractions, discuss induction plans with the Obstetric Team prior to administration of prostaglandins or consider a balloon induction.

3.6.1 Pain relief

Women should be informed of the different methods available to them in their antenatal birth preferences appointment.

At the beginning of the induction process, the options for analgesia should be explained. Women can use breathing techniques, mobilisation, warm water, simple analgesia, as well as pethidine.

During the induction process, an epidural should be offered prior to starting oxytocin.

3.6.2 Pharmacological and mechanical methods for inducing labour

Any woman with a Bishops score of ≥7 and intact membranes does not require further cervical ripening and should be offered artificial rupture of membranes (ARM) on Labour Ward as a first line intervention.

If there is any delay to transfer to Labour Ward, offer a sweep and consider whether after appropriate monitoring, the woman could await admission to Labour Ward at home after discussion with the obstetric team.

Both mechanical (Balloon - either Foleys catheter or Cooks cervical Ripening balloon) and pharmacological (dinoprostone – Prostin or Propess) methods can be used to induce labour.

Pharmacological methods are NOT recommended for woman who have a previous uterine scar, either from previous Caesarean section or myomectomy.

The main benefit from mechanical methods is the reduced chance of tachysystole, causing fetal heart changes (hyperstimulation).

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

Hyperstimulation should be treated by removing the prostaglandin if possible (easier with Propess® than Prostin tablets) and consider giving Terbutaline 250mcg SC
CTG should be continued and Labour ward informed of potential transfer. A second dose of terbutaline may be required after 15 to 30 minutes.

Hypertonus can occur with excessive use of oxytocin as well as due to placenta abruption. The woman should have an urgent obstetric review and management plan documented.

Primiparous women
Women suitable for prostaglandins can use

- Propess® (see Appendix 2)
- Prostin 3mg tablets
- Prostin Gel – 2mg
- mechanical induction method.

A nulliparous woman can be offered Propess ® as this has similar efficacy as prostin tablets within reduced vaginal examinations needed.

Multiparous woman

Can be offered:

- Prostin 3mg tablets
- Prostin Gel 1mg
- mechanical induction methods

3.6.2.1. Propess® (Outpatient and Inpatient Use) please see Appendix 3

- One cycle of vaginal PGE2 controlled-release pessary 10mg vaginal device (Propess®): one dose over 24 hours. This aims to minimise the number of vaginal examinations.

Success is dependent on correct placement of the Propess® tape horizontally behind the cervix in the posterior fornix.

- If Propess® has fallen out and not re-usable, consider administering one Prostin Gel after 6 hours from exposure to Propess®. Do not insert a new Propess® vaginal device as this will result in drug overdose.

- If the woman has spontaneously ruptured her membranes (clear liquor) and is NOT contracting regularly, the Propess® can remain until completion of the 24 hours period.

- Contractions are ≥ 5 contractions in 10 minutes (Tachysystole/Hyperstimulation).
- Painful strong contraction lasting ≥ 90 seconds (Hypertonus).
- Concern about post Propess® CTG
- Significant vaginal bleeding
- Maternal systemic adverse effects such as severe nausea and vomiting.
- After 24 hours

After 24 hours, the Propess® should be removed and the woman reviewed to check cervical change.

An ARM can be performed on Labour Ward and the woman allowed to mobilise - up to 2 hours (primiparous) or 4 hours for a multiparous woman as she wishes. If there are no contractions after ARM, oxytocin can be started after 30 minutes from removing the Propess® pessary.

If after 24 hours, this method is unsuccessful in achieving cervical ripening, 1 further 3mg prostin tablet can be used or balloon inserted.

3.6.2.2 Prostin Gel regime

Primiparous

- One cycle of vaginal PGE2 (Prostin):

First dose – Prostin gel 2mg followed by a second dose after >6 hours if labour is not established.
Second dose – Prostin 1mg
Third dose – Prostin 1mg one dose

Multiparous

First dose – Prostin gel 1mg followed by a second dose after >6 hours if labour is not established.
Second dose – Prostin 1mg

Third dose – Prostin 1mg one dose

- Document Bishops score after at each examination
- Should the Bishops score still be < 6, a balloon can be considered
- Oxytocin must NOT be started for 6 hours following administration of vaginal prostin.

3.6.2.3 Prostin tablets regime

- One cycle of vaginal PGE2 3mgs tablets (Prostin): one dose, followed by a second dose after > 6 hours if labour is not established (maximum total dose - 6mg/24 hrs).
- Document Bishops score after at each examination
- A third prostin tablet can be administered 24 hours after the 1st tablet was given, after discussion and documentation by the Obstetric team.
- Should the Bishops score still be < 6, a balloon can be considered
- Oxytocin must NOT be started for 6 hours following administration of vaginal prostin.

3.6.2.3 Mechanical methods (see appendix 4 & 5)

- Mechanical methods of induction of labour can be used as an outpatient as this avoids the potential side effects of hyperstimulation and changes in the fetal heart rate.
- Mechanical methods are the primary methods of induction for any woman having had a previous Caesarean section or significant uterine surgery. They can also be considered for grandmultiparous woman (parity > 5) or growth restricted fetuses with Consultant oversight.
- The standard history, examination and investigations are documented on eCare as per 3.6 – **Starting induction of Labour**.
- Suitably training doctors or midwives can insert the cervical balloon. See Appendix 2
- Foleys catheter can be left in situ for up to 24 hours. Cooks cervical ripening balloon should be removed after 12 hours.
- Should a balloon be expelled, offer to perform a vaginal examination to discern whether ARM is achievable.
- Post balloon removal, an ARM can be performed on Labour Ward.
- If there is a delay on Labour ward, and the woman was having an Outpatient induction, if the woman wishes, observations and CTG is normal, the patient can go home to await a call to return once space is available after discussion with the obstetric team, however fetal and maternal wellbeing should be confirmed with at least once a day monitoring.

3.7 Amniotomy as part of induction process (ARM)

ARM is offered to those who have an effaced cervix with a Bishops score ≥ 7 as the primary agent of induction or as part of the ongoing induction process. This forms part for the next step of an induction process after pharmacological or mechanical methods of induction.

Once on Labour Ward, an SBAR handover should be delivered and similar documentation to 3.6 – **Starting induction of Labour**.

- Perform an abdominal palpation to confirm presentation and engagement.
- Fetal heart rate should be recorded on CTG as per 3.6
- If the presenting part is high, the decision to perform ARM needs to be reviewed and consider whether controlled ARM required (discuss with the Consultant / Registrar).
- Perform a vaginal examination and rupture the membranes using an amnihook.
- Record cervical examination and liquor (clear, blood stained, meconium, no liquor)
- Record a CTG for 30 minutes post ARM

For a woman aiming for a vaginal birth after Caesarean, if there are signs of uterine activity post ARM, the CTG should continue

- The woman has the options of mobilization or oxytocin after 30 minutes in primiparous woman with minimal uterine activity.
- If the woman is mobilizing and labour is not established 2 hours in primiparous or 4 hours in a multiparous women after ARM, an oxytocin infusion can be offered.
- Oxytocin infusion follows the intrapartum oxytocin protocol (as per Care in Labour guideline).

3.8 Inpatient Induction

In-patient induction of labour is indicated if women do not fulfil the criteria for out-patient induction or for women who decline outpatient induction.

On the day of induction, the midwife allocated to antenatal ward should ensure that they have an updated list of those due for induction.

Aim to contact the maternity service user by 2pm at the latest to confirm time to attend Ward 9. Anyone admitted for induction should follow the same guidance in 3.6 and decision regarding method of induction discussed with the obstetric team.

Maternal and fetal wellbeing should be reviewed every 4-6 hours with pharmacological methods and every 6-8 hours with the mechanical method. At a minimum, this should include maternal observations (including bloods sugar readings as applicable), and enquiry regarding signs of labour and fetal movements.

If there is a delay in transfer to Labour ward during an induction process, the obstetric team should discuss the possibility of home leave for up to 6 hours during the day, ensuring maternal and fetal wellbeing before leaving and on re-admission.

If the woman establishes labour with either method, the woman should then be transferred to Labour ward to continue following the Care in Labour guidelines.

3.9 Outpatient Induction (see appendix 6 & 7)

For women suitable for and choosing outpatient induction, they should arrive in ADAU at 0730

Prior to starting induction, staff should follow the same guidance in 3.6 and decision regarding method of induction discussed with the maternity service user and obstetric team.

Prior to going home, everyone should be happy to proceed, and the Outpatient Induction leaflet explained, and a copy given.

- It is vital to ensure the woman knows when to return:

  Concerns with fetal movements
  Regular painful contractions every 5 minutes
  Rupture of membranes
  Vaginal bleeding
  Feeling general unwell / feverish
  Balloon or propess® falls out
  Or if there are other concerns.

- The telephone number of ADAU and Labour Ward should be clearly visible and pointed out and explained that the maternity service user can call at any point whilst at home

During the outpatient induction, the woman should be asked to return that evening for observations, and 30 - 60 minute CTG to ensure fetal wellbeing.

Labour Ward co-ordinator needs to be informed of all women having an Outpatient induction, information required:

Name, telephone number and Hospital
Number: Parity and gestation:
Indication for IOL
Time of Prostin/Propess/balloon insertion

3.10 Recommendations if induction of labour fails

The criteria for failed induction are not generally agreed, however there should be an opportunity to discuss the ongoing induction process if the Bishops score is <7 after one cycle of treatment, defined as:

Two Prostin 3mg pessaries
One Propess 10 mg vaginal device over 24 hours
After removal of balloon at the appropriate time

If initial treatment does not achieve Bishops score >7, the options are:

One further prostin 3mg tablet at 24 hours post initial prostaglandin administration (contra-indicated with previous uterine surgery).

A cervical balloon to dilate the cervix - if initial management was prostaglandins

Use of 3mg Prostin if mechanical method has failed (after discussion with oncall consultant). No time interval is required after mechanical balloon removal prior to administration of Prostin.

Caesarean section

Have a period of "rest" and re-start induction at a later date.

Should a woman's preference be to go home before a second cycle, a clear plan must be discussed and documented by a consultant, and the woman must be aware of the potential risks and benefits involved

4.0 Statement of evidence/references

References:

1. National Institute for Health and Clinical Excellence (NICE). (2021). Inducing Labour. NG207 London: NICE. Available at: www.nice.org.uk

2. National Institute for Health and Clinical Excellence (NICE). (2017). Intrapartum Care for Healthy Women And Babies. CG 190 London: NICE. Available at: www.nice.org.uk

3. National Institute for Health and Clinical Excellence (NICE). (2008). Diabetes in Pregnancy: Management Of Diabetes And Its Complications From Pre-Conception To The Postnatal Period. NG3 (2020 London: NICE. Available at: www.nice.org.uk

4. Arrowsmith S, Wray S, Quenby S. Maternal obesity and labour complications following induction of labour in prolonged pregnancy. BJOG 2011; DOI: 10.1111/j.1471-0528.2010.02889.x

5. Beckmann M, Gibbons K, Flenady V, Kumar S. Induction of labour using prostaglandin E_2 as an inpatient versus balloon catheter as an outpatient: a multicentre randomised controlled trial. BJOG. 2020 Apr;127(5):571-579. doi: 10.1111/1471-0528.16030. Epub 2019 Dec 17. PMID: 31785056.

6. Bhide, A., Sedgwick, P., Barrett, B., Cupples, G., Coates, R., Goode, R., Linton, S., & McCourt, C. (2020). Prostaglandin insert dinoprostone versus trans-cervical balloon catheter for outpatient labour induction: a randomised controlled trial of feasibility (PROBIT-F). *Pilot and feasibility studies*, *6*, 113. https://doi.org/10.1186/s40814-020-00661-7

7. Coates R, Cupples G, Scamell A, McCourt C, Bhide A. Women's experiences of outpatient induction of labour with double balloon catheter or prostaglandin pessary: A qualitative study. Women Birth. 2021 Jul;34(4):e406-e415. doi: 10.1016/j.wombi.2020.07.006. Epub 2020 Aug 13. PMID: 32800469.\

8. Diederen M, Gommers J, Wilkinson C, Turnbull D, Mol B. Safety of the balloon catheter for cervical ripening in outpatient care: complications during the period from insertion to expulsion of a balloon catheter in the process of labour induction: a systematic review. BJOG. 2018 Aug;125(9):1086-1095. doi: 10.1111/1471-0528.15047. Epub 2018 Jan 10. PMID: 29211328.

9. Howell, A, Blott, M. Very advanced maternal age. *The Obstetrician & Gynaecologist* 2021; 23: 38– 47. https://doi.org/10.1111/tog.12710

10. Middleton P, Shepherd E, Morris J, Crowther CA, Gomersall JC. Induction of labour at or beyond 37 weeks' gestation. Cochrane Database of Systematic Reviews 2020, Issue 7. Art. No.: CD004945. DOI: 10.1002/14651858.CD004945.pub5.

11. Norman JE, Stock S. Intracervical Foley catheter for induction of labour. Lancet 2011; **378**:2054-2055

12. Stephenson E, Borakati A, Simpson I, Eedarapalli P. Foley catheter for induction of labour: a UK observational study. J Obstet Gynaecol. 2020 Nov;40(8):1064-1068. doi: 10.1080/01443615.2019.1676213. Epub 2019 Dec 3. PMID:

31793372.

13. RCOG Scientific Impact paper Number 34: Induction of Labour at Term in Older Mothers Feb 2013 Layout 1 (rcog.org.uk)

14. Stock SJ, Bhide A, Richardson H, Black M, Yuill C, Harkness M, Reid M, Wee F, Cheyne H, McCourt C, Rana D, Boyd KA, Sanders J, Heera N, Huddleston J, Denison F, Pasupathy D, Modi N, Smith G, Norrie J. Cervical ripening at home or in-hospital-prospective cohort study and process evaluation (CHOICE) study: a protocol. BMJ Open. 2021 May 4;11(5):e050452. doi: 10.1136/bmjopen-2021-050452. PMID: 33947741; PMCID: PMC8098973.

15. Vogel JP, Osoti AO, Kelly AJ, Livio S, Norman JE, Alfirevic Z. Pharmacological and mechanical interventions for labour induction in outpatient settings. Cochrane Database Syst Rev. 2017 Sep 13;9(9):CD007701. doi: 10.1002/14651858.CD007701.pub3. PMID: 28901007; PMCID: PMC6483740.

16. Wise MR, Marriott J, Battin M, Thompson JMD, Stitely M, Sadler L. Outpatient balloon catheter vs inpatient prostaglandin for induction of labour (OBLIGE): a randomised controlled trial. Trials. 2020 Feb 17;21(1):190. doi: 10.1186/s13063-020-4061-5. PMID: 32066505; PMCID: PMC7027046.

5.0 Governance

5.1 Document review history

Version number	Review date	Reviewed by	Changes made
1	Jan 2003	Mary Plummer	New guideline
	Jun 2005	Mary Plummer	Reviewed- no change required
2	Aug 2008	Merja Thomas	Update – with minor changes
3	Nov 2010	Miss Thampi	Additional information included in the document; changes made to include best practice
3.1	Nov 2011	S Mahoney & Miss Thampi	Reviewed and minor amendments made
3.2	Jun 2013	Miss Thampi & Mary Plummer	Review and addition of use of Propess
3.3	Jan 2015	Carolyn Rooth	Section 11 added
4.0	Apr 2015	Carolyn Rooth	Guideline review and update, to include outpatient induction.
5.0	Dec 2016	Premila Thampi	Guideline review and update
6.0	Oct 2018	Erum Khan	Guideline review and update
6.1	Jan 2019	Erum Khan	Section 3.6.2 Patient exclusions; gestational age updated to below 41 weeks and greater than 42 weeks
7.0	May 2022	Anja Johansen-Bibby	Guidelines review and update
7.1	Jan 2023	Mary Plummer	Amendments for prostin gel to be included in regime

5.2 Consultation History

Stakeholders Name/Board	Area of Expertise	Date Sent	Date Received	Comments	Endorsed Yes/No
Miss Whitelaw	Consultant	May 2013			
Mr Stock	Consultant	May 2013			
Mr Hanna	Consultant	May 2013			
Miss Gupta	Consultant	May 2013			
Miss Thampi	Consultant Labour	May 2013			

	Ward Lead				
Miss Pezeshki	Consultant	May 2013			
Mr Yeh	Consultant	May 2013			
Mr Nakade	Consultant	May 2013			
Tracey Payne	Head of Midwifery	May 2013			
Mary Plummer	Matron	May 2013			
Molly Brew	Supervisor of Midwives	May 2013			
Di Summersgill	Supervisor of Midwives	May 2013			
Beverley Edwards	Sister	May 2013			
Pat Carter	Sister	May 2013			
Julie Howarth	Sister	May 2013			
Karen Tysoe	Sister	May 2013			
Julia Richmond	Sister	May 2013			
Katrina Caen	Sister	May 2013			
Suzanne Barber	Infant feeding advisor	May 2013			
Helen Robinson	Risk Midwife	May 2013			
Ed Neale	Clinical Director	Jan 2014			
Tracey Payne	Head of Midwifery	Feb 2014			
Carolyn Rooth	Consultant Midwife	Nov 2016			
Ed Neale	Divisional Director	Sep 2018		Comments sent to author	Yes
Julie Cooper	Head of Midwifery	Sep 2018		Comments sent to author	Yes

Stephanie Smith	Pharmacist	Sep 2018	Sep 2018	Comments sent to author	Yes
Laura Andrews	Midwife	2.5.18		Comments sent to author	Yes
Melissa Coles	ADAU midwife	Sep 2018		Comments sent to author	Yes
Jasmine Branch-Milne	Midwife		2.5.18	Comments sent to author	Yes
Laura Jewell	Midwife		4.5.18	Comments sent to author	Yes
Alison Ruth	Midwife		4.5.18	Comments sent to author	Yes
Charlotte Auker	Midwife			Comments sent to author	Yes
Julie Cooper	Head of Midwifery	Sep 2018	Sep 2018	Comments sent to author	Yes
Wendy Bryant	Midwife	Sep 2018	Sep 2018	Comments sent to author	Yes
Kailash Nakade	Consultant	Sep 2018	Sep 2018	Approve: No Comments	N/A
Joanne Caux	Midwife	Sep 2018	Sep 2018	Approve: No Comments	N/A
Caredous Masters	Midwife	Sep 2018	Sep 2018	Approve: No Comments	N/A

5.3 Audit and monitoring

Audit/Monitoring Criteria	Tool	Audit Lead	Frequency of Audit	Responsible Committee/Board
a) Women who are being offered induction of labour are given personalised information about the benefits and risks for them and their babies, and the alternatives to induction. b) Outpatient induction, numbers and success rate. c)Numbers using mechanical methods for induction and success rate. d) Access to pain relief that is appropriate to their level of	Audit	Midwives and doctors as designated by audit leads	Annually	Midwives and doctors as designated by audit leads

pain and to the type of pain relief they request. e) Number of patients with evidence of Consultant involvement in decision regarding mode of delivery. f) Ensure all women with oxytocin use have a face-to-face obstetric review prior to commencing g) Women with previous uterine surgery have consultant involvement in decision making h)Rates of successful vaginal delivery. i) Use of prostaglandins and oxytocin j) Maternal observations that should be carried out during induction prior to the establishment of labour -BP, P, T, urine analysis, palpation, VE k) Fetal observations that should be carried out during induction prior to the establishment of labour l) Establishment of labour - Normal CTG in notes prior to starting IOL m) Evidence of personalized counselling regarding induction n) Vaginal examination repeated 6 hours after prostin given Y/N (if not, reason for delay)				

5.4 Equality Impact Assessment

As part of its development, this Guideline and its impact on equality has been reviewed. The purpose of the assessment is to minimise and if possible remove any disproportionate impact on the grounds of race, gender, disability, age, sexual orientation, religion or belief, pregnancy and maternity, gender reassignment or marriage and civil partnership. No detriment was identified. Equality Impact assessments will show any future actions required to overcome any identified barriers or discriminatory practice.

Equality Impact Assessment			
Division	Women's and Children's Health	Department	Maternity
Person completing the EqIA	Anja Johansen-Bibby	Contact No.	
Others involved:	Yes, Shaan Meeda	Date of assessment:	May 2022
Existing policy/service	Yes	New policy/service	No

Will patients, carers, the public or staff be affected by the policy/service?	Yes
If staff, how many/which groups will be affected?	Midwives and Obstetricians

Protected characteristic	Any impact?	Comments
Age	NO	Positive impact as the policy aims to recognise diversity, promote inclusion and fair treatment for patients and staff
Disability	NO	
Gender reassignment	NO	
Marriage and civil partnership	NO	
Pregnancy and maternity	YES	
Race	NO	
Religion or belief	NO	
Sex	NO	
Sexual orientation	NO	

What consultation method(s) have you carried out?
Circulation of guideline – email, maternity guideline review group
How are the changes/amendments to the policies/services communicated?
Maternity guideline review group minutes - email, guideline monthly memo poster
What future actions need to be taken to overcome any barriers or discrimination?

What?	Who will lead this?	Date of completion	Resources needed
Review date of EqIA	May 2025		

Appendix 1: Bishops score

Modified Bishop's score:

Score	0	1	2	3
Cervical dilatation (cms)	0	1-2	2-4	>4
Length (cms)	>4	2-4	1-2	<1
Consistency	Firm	Medium	Soft	
Position of the cervix	Posterior	Mid-anterior	Anterior	
Level of presenting part in relation to ischial spines	-3	-2	-1 / 0	+1 / +2

Appendix 2 Outcomes for babies and women

Outcome	Induction of labour	Expectant management	Risk difference
Shoulder dystocia	About 410 babies would 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

Appendix 3: Further information on use of Propess®

- Propess must be stored in a freezer at -10-25 degrees Celsius.
- Remove propess from the freezer 20 minutes before administering (although thawing is not required before use).
- Insert Propess high into the posterior fornix using aquagel (NOT Hibitane).
- The pessary should lie transversely behind the cervix in the posterior fornix.
- After Propess has been inserted the withdrawal tape may be cut but ensure that there is sufficient tape outside the vagina to allow removal.

After insertion

- Continue CTG for 30 minutes with the woman lying semi-recumbent.
- Note any adverse effects (nausea, vomiting, tachycardia, hypotension, fever, vaginal irritation, abdominal pain, vaginal bleeding, hypertonic uterine activity, abnormal CTG)
- If any adverse effect, review by an obstetrician.

Appendix 4 Use of a Foley Catheter for Induction of Labour

- Use of the balloon should be undertaken only after appropriate training

Equipment needed

- Vaginal pack, Cusco"s speculum; Aseptic cleaning solution ; Sterile gloves ; Light source ; sponge holder ; cord clamp
- Foley catheter 16F
- Up to 50ml sterile saline / water for injection in a Luer lock syringe

Procedure

- Clean perineum and vagina
- Use Cusco's speculum to visualise cervix
- Clean the cervix with aseptic solution
- Feed catheter through the internal os, with sponge forceps if needed
- Once past the internal os, inflate the Foley catheter balloon with 30ml N/saline or water
- Use the cord clamp to occlude the open, external end of the catheter [where the urine bag would normally be attached]
- Tape the lower 1/3 of the catheter under slight traction to the inner thigh
- 30-60 min CTG after insertion of Foley catheter