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NHS Foundation Trust

Patient information service
St Michael's Hospital

Induction of labour

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If there is anything you don't understand in this leaflet, please contact your midwife.

Provisional date of induction .....

What is induction of labour (IOL)?

In most pregnancies, labour starts naturally between 37 and 42 weeks, leading to the birth of the baby. Induction of labour is a process designed to start labour artificially. About one in five labours are induced.

Why induce labour?

In some circumstances, we may advise you that it is likely to be safer for you or your baby if labour is induced, rather than for the pregnancy to continue. You will have the opportunity to discuss your individual needs, and the benefits (advantages) and risks (disadvantages) of inducing your labour, before you decide whether or not to have your labour induced.

We would encourage you to look at a variety of sources of information and discuss the information provided with your partner before coming to a decision. Your community midwife and the doctors and midwives in the hospital will happily discuss any queries you may have with you and your partner, and will support you in your decision, whatever that may be.

Priority is always given to the most urgent cases. We cannot guarantee that every induction of labour can be started on the day originally agreed, and delays may happen even once the

procedure has begun. A senior doctor and midwife will make this decision based on the safety of all mothers and babies.

How is it organised?

On the morning of the date you have provisionally been given for induction, you will be telephoned by a member of staff between 8am and 10am, advising you when to come to the hospital and where to attend.

If you have not received a telephone call by 10am, please phone the delivery suite on 0117 342 5213 or 0117 342 5214.

You will need to be ready to come in to the hospital as soon as you receive the phone call. If we are unable to carry out your induction of labour at this time, you may be asked to go to the day assessment unit at St Michael's Hospital or Weston Hospital for a check up if appropriate.

The induction itself

A midwife will discuss the induction with you and ensure that you are happy to proceed. She will also examine your abdomen, check your blood pressure, test your urine, and your baby's heartbeat will be monitored.

The midwife will perform a vaginal examination to see if your cervix is ripe (soft, stretchy and open) – this may be a little uncomfortable for you. If the cervix is not ripe, we will encourage the cervix to ripen using a prostaglandin pessary.

The pessary looks like a very small tampon which is inserted into the vagina. It contains a hormone called prostaglandin, which is released slowly over 24 hours to ripen your cervix. Once inserted into your vagina, the pessary will stay there for 24 hours. There is a string attached to the pessary to allow the midwife or

doctor to remove it easily. The string will be placed inside your vagina. After the pessary has been inserted, you will be asked to lie on your side for 30 minutes. This allows the pessary to absorb moisture from your vagina, which will make the pessary swell slightly and prevent it from falling out. Following this, you may move around as normal. You do not need to stay in bed, but you will remain in the maternity unit. If the string from the pessary comes out of your vagina, you must be careful not to pull or drag on it, as this may cause accidental removal of the pessary.

Please take special care:

- when wiping yourself after going to the toilet
- after washing yourself
- getting on and off the bed.

In the unlikely event that the pessary should come out, please tell the midwife immediately. The pessary will need to be reinserted.

If labour should start, the pessary will be removed when your cervix is at least three to four centimetres dilated.

After 24 hours, if you are not in labour, you will be seen by a senior doctor to discuss your plan of care with you. If the cervix is ripe and opening, you will be transferred to the delivery suite to have your waters broken when there is a room available.

Sometimes the doctor may decide that prostaglandin in the form of gel should be given instead of the pessary – this is also inserted into the vagina. A second gel may be given after six hours if you are not in labour. If you do not go in to labour after the second dose of gel, a senior doctor will discuss your plan of care with you. It is possible that a third dose of gel may be needed, particularly with a first labour.

In between being given the doses of gel you will be free to move around, as with the pessary.

Inform the midwife if:

- you experience regular contractions (one contraction in every five minutes)
- you require pain relief
- your waters break
- you are worried.

Occasionally, the doctors may decide with you that no prostaglandin is required, and you will be admitted directly to delivery suite to have your waters broken.

Your baby's heartbeat will be monitored once your contractions start, and possibly at other times depending on your individual circumstances. When you are in established labour (from when your cervix is three to four centimetres dilated), you will be offered continuous electronic fetal monitoring. If you would like more information about this, please ask your midwife. There is also a patient information leaflet called 'Listening to your baby's heartbeat in labour'.

If you are having labour induced because your waters have broken, you may be given a drug called oxytocin. This is a drug that encourages contractions. It is given through a drip and enters the bloodstream through a tiny tube into a vein in the arm. This means that your ability to move around will be limited. While it may be okay to stand up or sit down, it will not be possible to have a bath or to move from room to room. You may also be given oxytocin after having had a pessary and your waters broken if you have not gone in to labour.

Once contractions have begun, the rate of the drip can be adjusted so that your contractions occur regularly until your baby is born.

While you are being given oxytocin, or once you are in labour after having any type of prostaglandin, the midwife will monitor your baby's heartbeat continuously. This is because these drugs can occasionally cause the uterus to contract too much. This may affect the pattern of your baby's heartbeat. If this happens, you will be asked to lie on your left side.

If you have the oxytocin drip, it will be turned down or off to lessen the contractions. Sometimes another drug will be given to make the contractions weaker.

Women who have oxytocin are more likely to need an epidural to help with pain. An epidural is a pain relief injection given into your back.

Please see the leaflet on 'Epidural pain relief'.

Your midwife or doctor should fully discuss the risks and benefits with you before any decision is reached. They should explain the procedures and care that will be involved.

Occasionally induction of labour will not work, and labour will not start. If this happens, a senior doctor will discuss your options with you, and a caesarean section may be advised.

What should I bring?

- your hand held notes
- your suitcase with things for you and your baby.

Please see the list of things to bring into hospital in the 'Having a baby at St Michael's Hospital' leaflet.

Where shall I park the car?

Try to park in the pay and display car parks opposite the hospital in Southwell Street. Pay for the first few hours and then ask at the reception desk on the ward for a pass.

Ask at reception if you have a problem.

Where do I go?

Unless you have been told to go straight to the central delivery suite (CDS), take the lift to level E and go to the ward as informed on the day of the induction of labour.

Please use the intercom at the ward door to let the staff know you have arrived.

Who can be with me?

Unless you are advised to go directly to the delivery suite, you will usually be offered a single room on the ward. One birth partner is welcome to stay overnight. However, please note that there will not be a bed available for them – only a comfortable chair and bathroom facilities. Normal visiting rules apply for all other visitors. When you are transferred down to the delivery suite, you can have two people with you during your labour and birth.

If there is anything you don't understand in this leaflet, please contact your midwife.

Please note that if for any reason you would value a second opinion concerning your diagnosis or treatment, you are entirely within your rights to request this.

The first step would usually be to discuss this with the doctor or other lead clinician who is responsible for your care.

Smoking is the primary cause of preventable illness and premature death. For support in stopping smoking contact **NHS Smokefree 0300 123 1044**

As well as providing clinical care, our Trust has an important role in research. This allows us to discover new and improved ways of treating patients.

While under our care, you may be invited to take part in research. To find out more please visit: **www.uhbristol.nhs.uk/research-innovation**

For access to other patient leaflets and information please go to the following address:

www.uhbristol.nhs.uk/patients-and-visitors/information-for-patients/

Hospital switchboard: 0117 923 0000

Minicom: 0117 934 9869

www.uhbristol.nhs.uk

For an interpreter or signer please contact the telephone number on your appointment letter.

For this leaflet in large print or PDF format, please email patientleaflets@uhbristol.nhs.uk

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Clinical Guideline

INDUCTION OF LABOUR

SETTING Maternity Services, St Michael's Hospital

FOR STAFF Midwives & Obstetricians

PATIENTS Pregnant Women requiring Induction of labour

GUIDANCE

Introduction

The clinical requirement for Induction of Labour (IOL) arises from circumstances in which it is believed that the outcome of the pregnancy will be better if it is artificially interrupted rather than being left to follow its natural course. Induction of Labour is perhaps unique in medicine because it seeks to advance a process which in the natural course of events is inevitable unless the pregnancy is terminated by caesarean section.

Induced labour has an impact on the birth experience of women. It may be less efficient and is generally more painful than spontaneous labour. It is also more likely to require epidural analgesia and assisted birth. Induction of labour is a relatively common procedure. In 2004–05, 19.8% of all deliveries in the UK were induced. This includes induction for all medical reasons. Where labour was induced by drugs, whether or not surgical induction was also attempted, fewer than two-thirds of women gave birth without further intervention, with about 15% having instrumental births and 22% having emergency caesarean sections.

Treatment and care should take into account women's individual needs and preferences. Women who are having or being offered induction of labour should have the opportunity to make informed decisions about their care and treatment, in partnership with their healthcare professionals. Good communication between healthcare professionals and women is essential. It should be supported by evidence-based written information tailored to the needs of the individual woman. Treatment and care, and the information women are given about it, should be culturally appropriate and accessible.

Indication for Induction of Labour

IOL maybe indicated for a variety of clinical indications, the most common of which are prolonged pregnancy (postmaturity) or prelabour rupture of the membranes at term (PROM). Several obstetric complications may require earlier delivery and where vaginal delivery is anticipated induction of labour can be attempted. The decision to induce labour in these circumstances must be clear and clinically justified.

IOL which is planned for indications other than postmaturity or PROM must be discussed with a Consultant Obstetrician or Senior Obstetric registrar (ST6-7 or Subspecialty trainee), for example maternal medical conditions or fetal conditions including Intrauterine Growth Restriction.

In these cases an individualised plan of care should be made and documented within the antenatal pages of the maternal hand-held record to include:

- the method of induction of labour
- the optimal timing of induction of labour
- the place of induction of labour (consider IOL on CDS if high risk mother or fetus)
- requirements for monitoring fetal and maternal well-being

Induction of labour for maternal request prior to Term + 12 days
Where resources allow, maternal request for induction of labour **should only be considered when there are compelling psychological or social reasons** and the woman has a favourable cervix. This will be done on an individual basis at term after discussion with a Consultant Obstetrician.

MANAGEMENT OF PROLONGED PREGNANCY

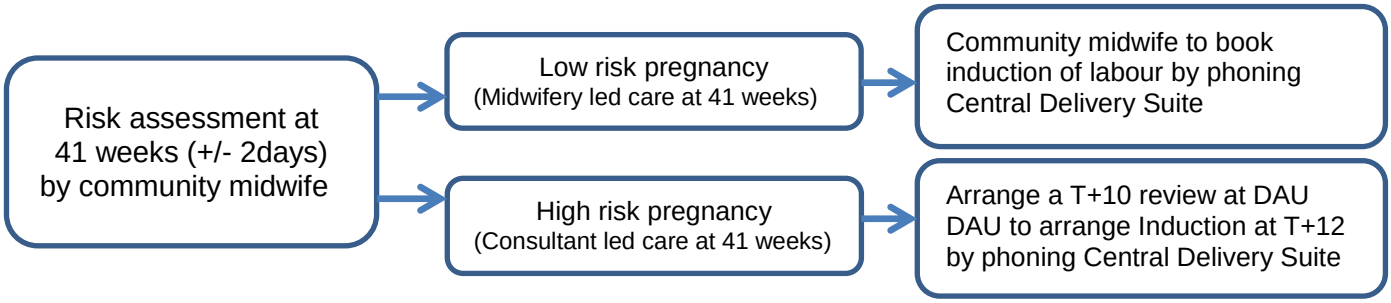
Prolonged pregnancy is defined as a pregnancy which continues beyond 42 weeks gestation, where the gestational age is established by a dating scan no later than 16 weeks gestation. Prolonged pregnancy occurs in between 5% and 10% of all women.

Dating pregnancy

- Calculate EDD from the dating scan

Women under Community Midwife led care
The community midwife will:

- Give & discuss the leaflet 'Care in late pregnancy' before the 40/40 appointment.
- Offer membrane sweeping from **40 weeks** (40 and 41 weeks for primiparous and 41 weeks for multiparous women). Women should be informed that membrane sweeping:
  - makes spontaneous labour more likely, and so reduces the need for formal induction of labour to prevent prolonged pregnancy
  - is not associated with an increase in maternal or neonatal infection
  - is associated with increased levels of discomfort during the examination
  - may cause a mucousy loss, a small amount of bleeding and some tightenings.
- Verbal consent should be obtained prior the membrane sweep.
- Auscultation of the fetal heart rate must be performed before and after a membrane sweep.
- Examination findings and fetal heart rate will be documented in the hand held record.
- Explain the options of
  - Induction of labour at Term +12 (+/- 2 days)
  - Expectant management.
- Perform a risk assessment at 41 weeks (+/- 2 days).
  - If any concerns regarding maternal or fetal wellbeing (e.g. reduced fetal movement) refer to DAU.
  - If pregnancy remains low risk, Induction of labour should be arranged by the community midwife by telephoning Central delivery suite at this appointment.



Women booked under Consultant care

- Women booked with a consultant will need the plan of late pregnancy care adapted to their individual needs.
- If a patient is suitable for the midwife led pathway in late pregnancy this should be documented in the hand-held record at the final consultant appointment.
- The leaflet 'Care in Late Pregnancy' can be given if appropriate.
- Before formal induction of labour, women can be offered sweeping of the membranes

as above.

- Women who continue to be under consultant led care in late pregnancy should be reviewed in Day Assessment Unit (St. Michael's Hospital and Weston General Hospital) at T+10 days.

At Day Assessment Unit

The midwife will: Assess maternal and fetal wellbeing by

- History and clinical assessment
- BP / urinalysis
- Abdominal palpation
- Cardiotocograph (CTG) and amniotic fluid index (AFI)

Arranging Induction of labour

Women with uncomplicated pregnancies should be offered induction of labour from Term + 12(+/- 2) days.

- Discuss risk and benefits of induction of labour vs expectant management
- Offer membrane sweep (if not already performed)
- Book induction in Delivery Suite IOL folder at Term + 12 (+/- 2 days)
- Provide and discuss the Induction of Labour patient information leaflet
- Women should be informed that their induction may be delayed if the workload within the unit precludes admission on the specified date

If any deviation from normal is detected at the initial assessment the patient should be reviewed by an obstetrician and an individualised management plan made.

Management of women who choose expectant management

Women who choose expectant management of a postmature pregnancy should be reviewed by an obstetrician and an individual management plan for their ongoing care documented in the notes.

As a minimum there should be discussion of

- increased risk of perinatal mortality (from 1 per 3000 ongoing pregnancies at 37 weeks, to 3 per 3000 ongoing pregnancies at 42 weeks, to 6 per 3000 ongoing pregnancies at 43 weeks).
- increased risk of Meconium stained liquor/ Meconium aspiration
- increased risk of Caesarean section and Operative delivery

Ongoing management should include

- Increased antenatal monitoring consisting of a twice-weekly CTG and ultrasound estimation of maximum amniotic pool depth from 42 weeks
- A review by a senior obstetrician (ST6-7, SST or Consultant) will be offered to women wishing conservative management beyond term +14.

MANAGEMENT OF INDUCTION OF LABOUR

Booking Induction of Labour

Inductions of labour are booked via the coordinating Midwife (Band 7) on Delivery suite. Where possible a maximum of six inductions of labour should be booked on any one day, as numbers greater than this will lead to women being delayed. Consideration should be given to the cases booked for both IOL and Caesarean Section on each date to ensure there are not multiple patients likely to require admission to the Neonatal Unit or Transitional Care unit (ward 76).

Information required for booking IOL

- Woman's name, hospital number (T number)
- Estimated date of delivery and gestation on the date of induction
- Clear indication for Induction of labour
- Risk factors identified (e.g. Maternal medical problems, fetal concerns, Body Mass Index, obstetric concerns, Maternal age, previous Caesarean Section)
- The Obstetrician agreeing to IOL (for indications except postmaturity or PROM)
- Agreed method for Induction of Labour (Propess, Foley catheter, ARM +/- syntocinon)

All women should be given the Induction of Labour patient information leaflet, and where possible an Induction of Labour pack (if IOL booked from St Michael's DAU or Antenatal Clinic – ANC) which contains a MOEWS chart, Drug Chart and Antenatal VTE risk assessment.
Propess should be prescribed by a doctor at the time of booking IOL to avoid delays on the day of admission.

Prioritisation & Admission Planning

Inductions of labour will be prioritised on a daily basis by the Senior Obstetrician covering delivery suite (either Consultant or ST6-7), the Coordinating Midwife on Delivery suite (see Appendix 1). The women will be contacted by a nominated member of staff before 10am and informed of the time and location of admission.

Women will be admitted either to the Induction Suite on level E or directly to Delivery Suite according to the individualised management plan. Primigravid patients undergoing IOL for postmaturity, without additional risk factors may be admitted in the evening.

If the decision is made to delay an Induction of Labour because of excessive workload or lack of NICU capacity the woman should be offered an assessment at her local Day Assessment Unit if clinically indicated, and offered the next available date for admission.

ON ADMISSION FOR INDUCTION OF LABOUR

Assessment & Monitoring of Fetal and Maternal Wellbeing

If no specific individual management plan (for example maternal obstetric/ medical conditions or fetal conditions including Intrauterine Growth Restriction) the minimum requirements include:

On commencing Induction of Labour

Assess maternal wellbeing by

- History and clinical assessment
- Maternal Observations as recommended in the guideline **Severely Ill Pregnant Women, Recognition of**
- Abdominal palpation and assessment of uterine activity

Assess fetal wellbeing

- Confirm a normal fetal heart rate pattern using continuous EFM for at least 30 minutes before induction of labour is started. Assessment should be carried out using the **Antenatal Fetal Monitoring Guideline**

If any deviation from normal is detected at the initial assessment the patient should be reviewed by an obstetrician (ST3 or above) and an individualised management plan documented in the hand held record.

Vaginal examination will be undertaken after ascertaining fetal wellbeing.

- Cervical Status will be assessed using the Bishop Score
- A Bishop score sticker should be used to record the vaginal examination findings in the hand held record
- Prostaglandins should be used for induction of labour unless specifically contraindicated, despite the Bishop Score at initial assessment

BISHOP SCORE					
Points	0	1	2	3	score
Dilation	< 1cm	1 - 2cm	2 - 4cm	> 4cm	
Cx length	> 4cm	2 - 4cm	1 - 2cm	<1cm	
Station	-3	-2	-1 /0	+1 /+2	
Consistency	Firm	Average	Soft		
Position	Post	Mid/Ant			
				Total	

Induction of labour using Propess (See below)

- Confirm that the fetal heart remains normal following the vaginal examination
- If the fetal heart rate pattern is normal following the administration of vaginal Propess there is no requirement to continue the EFM.

Once normality has been confirmed the woman should be encouraged to mobilise and eat and drink as normal.

Maternal and fetal well-being will be further assessed as follows:

Prior to onset of regular contractions:

- 4 hourly maternal observations (using Modified Obstetric Early Warning – MEOWS Chart)
- 4 hourly assessment of fetal well-being with full abdominal palpation, including auscultation of the fetal heart and **assessment of uterine activity**.
- Continue 4 hourly assessments of mother and fetus until tightenings/contractions start****** or 24 hours have passed, when further assessment by an obstetrician will be

required.

***** If Propess is used and there are known risk factors, then more intensive monitoring may be required. Therefore clear guidance on the frequency of maternal assessment and electronic fetal monitoring should be documented by the experienced obstetrician in the woman's notes.***

If the woman reports contractions or abdominal pain

- fetal wellbeing should be assessed with continuous electronic fetal monitoring.
- Once the cardiotocogram is confirmed as normal, intermittent auscultation should be used unless there are clear indications for continuous electronic fetal monitoring

If the contractions are irregular

- Assessment of uterine activity and auscultation of the fetal heart by Pinard's stethoscope or hand held Doppler must be performed 1-2 hourly.
- Vaginal assessment should be performed if regular painful contractions are palpated or analgesia is requested.
- If there are any concerns about fetal movements or fetal wellbeing on Intermittent Auscultation a further CTG must be undertaken.
- Once in established labour continuous EFM will be commenced (see guideline Monitoring the Fetus in Labour)

METHOD OF INDUCTION OF LABOUR

Induction of labour can be undertaken using Pharmacological or Mechanical methods. The preferred method of induction should be pharmacological with Prostaglandin, unless specific instructions given by a consultant obstetrician or in specific circumstances such as VBAC (see below)

Pharmacological Induction of labour with prostaglandins

- Prostaglandins should be used in preference to amniotomy and oxytocin when induction of labour is undertaken in either nulliparous or multiparous women with intact membranes, regardless of their cervical favourability.
- Either prostaglandins or oxytocin may be used when induction of labour is undertaken in nulliparous or multiparous women who have ruptured membranes, regardless of cervical status, as they are equally effective.
- Propess® will be used for induction of labour with **intact membranes** for primigravid and multiparous patients.
- Propess **should not** be used for women with prelabour ruptured membranes.
- Propess may be considered for women with a previous Caesarean Section if agreed by a Consultant Obstetrician; these women should be informed that induction of labour with Prostaglandins increases the risk of uterine rupture (risk is 1:290 compared with 1:770 if spontaneous labour).
- Prostaglandins should be used with caution in Grand Multipara (Parity > 4) due to the risk of uterine hyperstimulation; Propess may be considered when the cervix is unfavourable if agreed by a Consultant Obstetrician.
- Use of prostaglandin (either Propess or Prostin Gel) in patients < 37 weeks gestation should be discussed with a senior obstetrician (Consultant or ST6-7) and an individualized management plan made.

Propess®

A vaginal delivery system containing 10mg of Dinoprostone (Prostaglandin E2) in a thin flat rectangular pessary within a knitted polyester retrieval system. It is equivalent to 3 Prostin tablets given in a controlled manner; the release rate is approximately 0.3mg per hour. The pessary contains sufficient Prostaglandin to remain in situ for up to 29 hours, but removal is recommended after 24 hours.

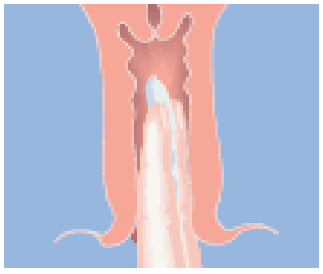
Propess should be stored in the freezer and removed immediately prior to use.

The advantages of Propess, compared with Prostin tablets, are

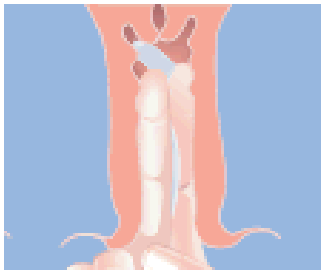
- it can be easily removed in the event of uterine hyperstimulation
- reduced need for repeated vaginal assessments
- reduction in delays to induction of labour

Inserting Propess

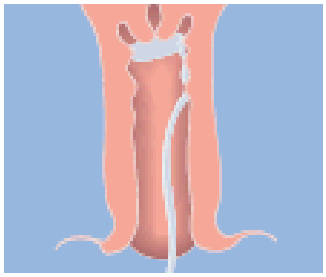
- Perform vaginal examination using water based gel for lubrication (Aquagel/ KY jelly)
- Insert pessary as shown below
- To prevent unintentional displacement at the time of insertion, loop the tape at the pessary end.
- Advise the woman to take care not to pull on the tape when visiting the toilet
- Advise the woman to inform a midwife of any concerns



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 lubrica nts.



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 90⅛so 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 t he Propess insert.

Removal of Propess

Propess should remain in situ for 24 hours

Accidental removal of Propess

- If the Propess falls out, is pulled out, or is removed in error before the onset of labour **then the same Propess can be reinserted** provided it has remained clean.
- If the Propess pessary falls out and becomes contaminated, a new Propess pessary can be inserted to continue treatment to a total of 24 hours.

Propess should be removed when:

- The women is experiencing regular painful uterine contractions every 3 minutes irrespective of any cervical change
- There are signs of maternal adverse reaction to dinoprostone (see below)
- There is uterine hyperstimulation (see below)
- There is active vaginal bleeding
    - request urgent senior obstetric review
    - commence CTG monitoring
    - remove the pessary immediately.
- There is evidence of fetal distress
- At least 30 minutes prior to amniotomy
- At least 30 minutes prior to commencing oxytocin

Remove Propess by giving gentle traction to the protruding tape at the vulva, until completely removed.
The patient should be transferred to labour ward for further management.
The time of and the reason for removal of Propess should be recorded in the maternal notes

Spontaneous Rupture of the Membranes (SROM) with Propess in situ

- Assess uterine activity and perform a CTG as soon as possible following SROM
- If no regular uterine activity is recorded
    - Leave pessary in situ
    - Continue 4 hourly maternal and fetal observations as above
    - If labour does not establish within 6 hours of SRM (with Propess in situ) transfer to CDS to progress to Syntocinon.
- If regular, painful uterine contractions requiring analgesia
    - Perform a sterile vaginal examination
    - Remove Propess regardless of cervical change
    - Transfer to Delivery suite for ongoing management

Adverse Reaction to Propess

Adverse reactions to Prostaglandins include:

- Nausea, Vomiting or Diarrhoea
- Hypotension
- Maternal tachycardia
- Genital oedema
- Uterine hyper stimulation.

In the event of an adverse reaction request urgent obstetric review.

Uterine Hyperstimulation
Uterine hyperstimulation is defined as contraction frequency greater than five in 10 minutes (for at least 20 mins) or contractions exceeding 2 minutes in duration.

If Hyperstimulation is suspected
Commence CTG immediately
Inform CDS coordinator

- Pathological CTG/ fetal bradycardia
  - remove Propess immediately
  - give 250mcg Terbutaline s/c
  - organise immediate transfer to CDS.

- Suspicious CTG
  - Review by ST3 or above
  - Perform vaginal examination (using water based lubricant)
  - Remove Propess.
  - If CTG remains suspicious follow obstetric advice.

After 24 hours
Women undergoing induction of labour should be reviewed as part of the daily antenatal ward round by their Obstetric team and a plan made for ongoing management.

The majority of women will establish in labour within 24 hours of insertion of Propess, if labour does not commence the woman should be examined by an experienced midwife or obstetrician to assess suitability for amniotomy.

- If amniotomy is possible liaise with the CDS coordinator to arrange transfer to delivery suite at the earliest opportunity for ARM.
- If there is a delay in transferring the women to labour ward Propess may be left in situ until transfer is possible, to a maximum duration of 29 hours.
- Propess should be removed 30 minutes prior to amniotomy.
- The time of removal of the Propess should be recorded in the maternal notes

In the event the woman is not ARMable she should be reviewed by an experienced Obstetrician (ST3 or above) to plan further management.
Decision about further management should be in accordance with the woman's wishes, and should take into account the clinical circumstances.
Options include use of Prostin Gel (2mg in an unfavourable primigravida or 1mg in a multipara) or caesarean section.

Administration of Prostin Gel
The appropriate dosage of Prostin gel will be prescribed by an Obstetrician.
Remove Propess and monitor the fetal heart for 30 minutes prior to administration of Prostin Gel.
Following insertion of the Prostin Gel the woman should be advised to remain on the bed and the CTG should be continued for 30 minutes.
Observations of fetal and maternal wellbeing should continue as above.

Mechanical Induction of Labour with Foley Catheter

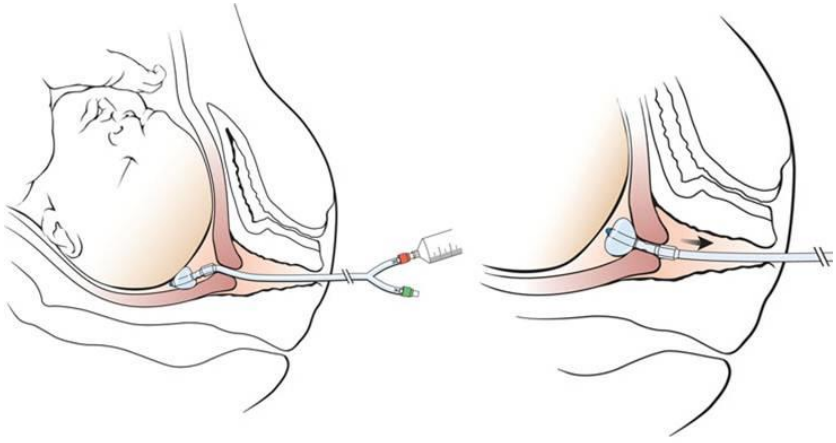
Mechanical methods can be used for cervical ripening and induction of labour.
The most common method is transcervical extra-amniotic insertion of a single balloon device (usually a Foley catheter); the balloon increases pressure on the internal os and stretches the lower uterine segment stimulating localised release of endogenous prostaglandins.

Advantages of the Foley Catheter Method when compared with vaginal PGE2 include:

- Reduced rates of uterine hyperstimulation associated with fetal heart rate changes (RR 0.16; 95% CI 0.06 – 0.39)
- Reduced chance of instrumental delivery (RR 0.79; 95% CI 0.64 – 0.98)
- Non-Pharmacological Comparable rates of Caesarean Section (RR 1.07; 95% CI 0.91 – 1.25)
- No proven increase in neonatal or maternal morbidity
- Patient satisfaction (Foley catheter has been shown to be better tolerated with less discomfort reported compared to vaginal PGE2)

Mechanical Induction of labour with a Foley catheter should be considered for women with a previous Caesarean Section where Amniotomy is not possible in preference to the unlicensed use of Prostaglandins in women who have undergone uterine surgery.
A Transcervical Foley Catheter may be used in preference to prostaglandins where there are concerns about hyperstimulation leading to fetal compromise (e.g. for an IUGR or preterm fetus or grand multiparous women).
Mechanical induction of labour should not be used in the presence of prelabour ruptured membranes.

Method of Insertion



The Foley catheter should be inserted through the cervix so that the balloon sits between the internal os and the membranes.
This should be done in an environment with adequate light and couch/ bed on which the woman can be comfortably placed into the lithotomy position; this may require transfer to CDS for insertion of the catheter.

Equipment required

- Sterile Vaginal Examination pack and gloves
- Cusco Speculum

- 16F Foley Catheter (30ml balloon) & Spigot
- Sterile Sponge Forceps
- 50ml Sterile Water
- 20ml Syringe
- Lubricating Gel
- Micropore Tape

Technique
After performing the routine admission assessment (see earlier):

- Ask the woman to empty her bladder
- Perform Abdominal Palpation (+/- Ultrasound) to confirm cephalic presentation
- Place in lithotomy position
- Clean vulvo-vaginal area as per Standard Operating Procedure for Vaginal and Speculum Examinations
- Insert speculum and visualise cervical os
- Using the sponge forceps advance the Foley catheter through the cervix until balloon is beyond the internal os.
- Gradually inflate the balloon with 50ml of sterile water then spigot the catheter.
- Gently withdraw the catheter until it rests at the level of the internal os
- Tape catheter to inner aspect of woman's thigh
- If severe discomfort is reported on inflating the balloon, perform a vaginal examination to confirm position. If the balloon is within the cervical canal deflate and attempt reinsertion as above.

Following insertion:

- Confirm that the fetal heart remains normal
- If the fetal heart rate pattern is normal there is no requirement to continue EFM
- If maternal and fetal observations are normal the woman can be transferred to an antenatal bed on the ward to continue routine care.

Once normality has been confirmed the woman should be encouraged to mobilise, eat and drink as normal.
Observations of fetal and maternal wellbeing should continue as per page 5 above.

In addition

- Perform an assessment of the position of the Foley catheter at 12 hours and 18 hours post insertion to confirm the catheter balloon is not sitting in the vagina (apply gentle traction to catheter).
- If the catheter falls out a vaginal examination should be performed. If the cervix is favourable the labour ward coordinator should be informed that the woman is ready to transfer for an ARM when appropriate.

Removal of the Foley catheter:
The Foley catheter should remain in situ for 24 hours
The catheter should be removed when

- There is Uterine Hyperstimulation
- There is evidence of Fetal Distress
- On Maternal Request
- Following Spontaneous Rupture of Membranes
- There is active vaginal bleeding

After 24 Hours
Women undergoing induction of labour should be reviewed as part of the daily antenatal ward round by their Obstetric team and a plan made for ongoing management.
If the catheter remains in situ remove the catheter by deflating the balloon and applying gentle traction, a vaginal examination should be undertaken by an experienced midwife or obstetrician to assess suitability for amniotomy.

- If amniotomy is possible liaise with the CDS coordinator to arrange transfer to delivery suite at the earliest opportunity for ARM.
- In the event the woman is not ARMable she should be reviewed by an experienced Obstetrician (ST6 or above) to plan further management.
- Decision about further management should be in accordance with the woman's wishes, and should take into account the clinical circumstances.

Pain Relief during Induction of Labour

Women undergoing induction of labour should be encouraged to remain mobile and well hydrated prior to the onset of labour.
Options for analgesia are the same as for women in the early or latent stage of labour and include

- Simple analgesia i.e. codydramol, paracetamol
- TENS machine
- Bathing
- Opiate analgesia i.e. Oramorph, Pethidine

See guideline Pain Relief in Labour - Non Epidural
Senior Obstetric review (ST3 or above) should be requested if a second dose of opiate analgesia is required and the woman is not in established labour; a plan for ongoing care should be made including requirements for fetal monitoring and timing of next vaginal assessment and obstetric review.

Oxytocin administration

(see guideline Syntocinon (Oxytocin) use in Augmentation or Induction of Labour)

- Oxytocin may be started **30 minutes after removal of Propess.**
- In women with intact membranes, amniotomy should be performed prior to commencement of an infusion of oxytocin.

INDUCTION OF LABOUR FOR SPECIFIC CIRCUMSTANCES

Prelabour Ruptured Membranes
Women with Prelabour Ruptured Membranes at term, in the absence of other risk factors, should be offered either immediate induction of labour or expectant management with induction of labour if labour does not establish within 24 – 36 hours.
Women with Preterm Prelabour Ruptured Membranes (PPROM) should be managed as per the guideline Prelabour Rupture of Membranes with timing of Induction of Labour according to the clinical circumstances.
Following assessment of maternal and fetal wellbeing as described above a vaginal examination should be undertaken to assess the favourability of the cervix.
Induction of labour should be commenced using Prostin Gel (2mg for primigravida, 1 mg for multipara) if the cervix is unfavourable, with a plan to transfer to CDS after 6hrs to continue Induction of Labour.

Propess and Mechanical Induction of labour with a Foley catheter should not be used in women with Prelabour Rupture of Membranes.

Previous Caesarean Section
Women wishing to undergo Vaginal Birth after Caesarean Section (VBAC) may require IOL for postmaturity, Prelabour Ruptured Membranes, or other obstetric indications.

Women should be informed that Induction of Labour increases the risk of uterine rupture when compared to spontaneous onset of labour (risk is 1:250 if IOL using Prostaglandin & Syntocinon, 1:290 for IOL using prostaglandin alone compared with 1:770 if spontaneous labour UKOSS 2011).
When IOL is undertaken using a Foley catheter there is a low risk of uterine hyperstimulation.

- Induction of labour should be by ARM and syntocinon where possible
- A Foley catheter should be considered in women in whom ARM is not possible
- the decision to use prostaglandins should be discussed with the named consultant Obstetrician (or Consultant on call)
    - Propess is not licensed for use in women who have undergone uterine surgery (including Caesarean Section) but may be considered on an individual basis if agreed by a Consultant Obstetrician,
    - A single dose of Prostin Gel 1mg is the alternative to Propess

An individualised plan of care including clear guidance on the frequency of maternal assessment, electronic fetal monitoring and when to transfer to CDS should be recorded in the notes by an experienced Obstetrician.

Fetal Growth Restriction
Fetuses with growth compromise are more likely to become acidotic in labour because of: uteroplacental insufficiency; lower metabolic reserves due to intrauterine malnutrition or pre-existing hypoxia; an umbilical cord more prone to compression due to a reduction in amniotic fluid volume.

Mechanical induction of labour using a Foley catheter should be considered in women undergoing induction for fetal growth restriction with an unfavourable cervix to reduce the risk of fetal distress associated with uterine hyperstimulation.

An individualised plan of care including clear guidance on the frequency of maternal assessment, electronic fetal monitoring and when to transfer to CDS should be recorded in the notes by an experienced Obstetrician.

Maternal Diabetes
Women with Diabetes in Pregnancy should be offered Induction of labour from 38 weeks gestation due to the increased risk of perinatal morbidity and mortality at term in pregnancies complicated with Diabetes.

Decisions on mode and timing of delivery should be made by a Consultant Obstetrician taking into consideration the type of Diabetes, the treatment that the woman is using, hypoglycaemic control and fetal growth.

An individualised plan of care including clear guidance on the frequency of maternal assessment, electronic fetal monitoring and when to transfer to CDS should be recorded in the notes.

Maternal Age ≥ 40 at booking
Unexplained stillbirths increase with advancing maternal age and with increasing gestational age; risk of stillbirth at 41 weeks gestation in a woman aged ≥ 40 at booking is 2.5 per 1000 (3 times greater than a woman under the age of 35 at 41 weeks gestation). In view of this women aged ≥ 40 at booking should be reviewed by an experienced obstetrician at 38 – 39 weeks gestation and offered either induction of labour at 40 weeks gestation, or an individualised plan of care with a schedule of increased fetal surveillance.

Intrauterine death – see Late Pregnancy Loss & Neonatal Death, Local Guideline

MANAGEMENT OF FAILED INDUCTION OF LABOUR

If labour has not established or amniotomy is not possible after administration of Propess and Prostin Gel, or the use of a Foley catheter in high risk patients, the woman should be reviewed by a senior Obstetrician (Consultant / ST 6-7) and an individual plan of care should be made, in the majority of women a caesarean section (Category 3) should be recommended and undertaken within 24 hours with normal preoperative preparation.

Expectant management or the administration of a further Prostin gel may be appropriate on some occasions after full discussion with the woman.

MANAGEMENT OF WOMEN WHO DECLINE INDUCTION OF LABOUR

Women who decline induction of labour where this is indicated for obstetric or medical reasons should have their case reviewed by a consultant obstetrician and an individual management plan for their ongoing care documented in the notes. A clear explanation should be given of the risks, benefits and alternatives of her decision making.

Monitoring of guideline

Process	Tool	Responsibility of:	Frequency of review	Responsibility for: (plus timescales)			
				Review of results	Development of action plan and recommendations	Monitoring of action plan and implementation	Making improvement lessons to be shared
Management of Induction of Labour in specific circumstances including • Prolonged Pregnancy • Previous Caesarean Section	Annual Clinical Audit	Antenatal Working Party	Annual	Women's Services Clinical Audit meeting	By ANWP within three months of the audit meeting	Review by ANWP @ 6 months	See monitoring statement for dissemination of learning
Documentation of • Maternal Observations that should be carried out during IOL prior to the establishment of labour • Fetal Observations that should be carried out during IOL prior to the establishment of labour	Annual Clinical Audit	Antenatal Working Party	Annual	Women's Services Clinical Audit meeting	By ANWP within three months of the audit meeting	Review by ANWP @ 6 months	See monitoring statement for dissemination of learning
Process for dealing with maternal requests for Induction of labour	Annual Clinical Audit	Antenatal Working Party	Annual	Women's Services Clinical Audit meeting	By ANWP within three months of the audit meeting	Review by ANWP @ 6 months	See monitoring statement for dissemination of learning

The above table outlines the minimum requirements to be audited; additional audits will be commissioned in response to deficiencies identified within the service through morbidity and mortality reviews/benchmark data provided by CHKS or in response to national initiatives e.g. NICE, RCOG guidelines, CNST standards

Version 4.2

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Minor Amendment: **Amendment**	Emma Treloar, Consultant Obstetrician, October 2015 Rachna Bahl, Consultant Obstetrician, March 2017
Consultation:	Jenny Ford & Lisa Damsell, Midwifery Matrons Consultant Obstetricians CDS Working Party
Ratified by:	Antenatal Working Party
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Jozwiak M, Dodd JM. Methods of term labour induction for women with a previous caesarean section. *Cochrane Database of Systematic Reviews* 2013, Issue 3. Art. No.: CD009792. DOI: 10.1002/14651858.CD009792.pub2.

RELATED DOCUMENTS

Diabetes in Pregnancy, Gestational
Diabetes in Pregnancy, Types 1 & 2
Late Pregnancy Loss & Neonatal Death, Local Guideline for Management
Antenatal Fetal Monitoring Guideline
Monitoring the Fetus in Labour
Pain Relief in Labour - Non Epidural
Prelabour Rupture of Membranes
Syntocinon (Oxytocin) use in Augmentation or Induction of Labour
Severely Ill Pregnant Women, Recognition of
Vaginal Birth after Caesarean Section

SAFETY

There are no unusual or unexpected safety concerns (to staff or patient)

QUERIES

Contact Emma Treloar bleep number 2789, Lisa Damsell ext 25211, or Jenny Ford ext 25470 or the Coordinating Midwife on CDS ext 25213/ 4.

Appendix 1

Prioritisation of Induction of Labour

The co-ordinating midwife on CDS and Senior Obstetrician in conjunction with the will prioritise inductions when the number exceeds 6 per day or when existing workload and bed capacity prevents all of the planned inductions being undertaken

Priority	Indication for Induction of Labour
Urgent	Spontaneous rupture of membranes > 24hours Maternal medical conditions such as ○ Cardiac disease with maternal compromise/ metal valves requiring full anticoagulation ○ Inpatients with moderate /severe PET(abnormal blood results/proteinuria) ○ Poorly controlled Insulin Dependent Diabetes Fetal concerns ○ IUGR (less than 5th centile) ○ Abnormal CTG, and/or dopplers ○ Reduced fetal movements ○ Gastroschisis Post maturity > term plus 14 days
High	Maternal medical conditions such as ○ Insulin dependent diabetes ○ Thromboembolism/ Thrombophilia on treatment Past obstetric history such as ○ Previous stillbirth/neonatal death Other Fetal conditions requiring NICU/PICU Cholestasis with bile acids >40mmol/litre
Moderate	Term + 12 SRM < 24 hours- in the absence of any evidence of infection Oligohydramnios in presence of normal fetal movements Maternal medical conditions such as ○ Cholestasis with bile acids <40mmol/litre or ALT greater than 32 umol/litre ○ Gestational diabetes on medication ○ Raised blood pressure/mild PET Maternal age
Low	Symphysis pubis dysfunction Maternal request/social grounds when pregnancy is progressing normally

Documentation
Record delay and any action e.g. review in Day assessment unit on the induction of labour booking form.