Induction of Labour

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Contents

Key Recommendations

- Induction of labour may be offered when birth of the baby is considered to be safer (for maternal or for fetal reasons) than continuing the pregnancy, taking into account the risks of the induction process itself on the mother and the risks of prematurity on the baby.
- Occasionally, the birth itself needs to be timed in order that the specialist resources can be made available for labour or the early neonatal period.
- Induction of labour should only be considered when vaginal birth is felt to be an appropriate and safe mode of birth.
- When induction of labour is requested due to psychological issues or anxiety, consider referral to the Mode of Birth Clinic (via EPR pool) to discuss a birth plan to support spontaneous labour.
- Induction of labour is not a benign intervention and should only be offered for clear reasons.
- Induction for suspected fetal macrosomia or previous precipitate labour should not be routinely offered in the absence of other indications.
- Other than for prolonged pregnancy (see below), the decision to offer induction of labour should be agreed with the consultant before making arrangements.

Background

Induction of labour is a common intervention, occurring in up to 25% of pregnant women.
Labour following induction is usually longer and perceived as more painful, and women whose labours are induced are more likely to go on to require other forms of medical intervention, including emergency caesarean section. Therefore, care in the planning and appropriate use of induction is required.

Aims

- Ensure induction is offered appropriately
- Offer stretch and sweep before induction at least 2-3 days before procedure starts if timing allows
- Ensure adequate resources available
- Ensure induction procedure happens expeditiously and safely

Scope

This guideline is applicable to all women who require induction of labour within the Oxford University Hospitals NHS Foundation Trust. Induction of labour may be offered in the following circumstances (this list is not exhaustive):

- Prolonged Pregnancy (42 weeks)
- Pre-labour rupture of membranes at term/preterm pre-labour rupture of membranes. See SROM at Term/Preterm Pre-labour Rupture of Membranes Guideline
- Maternal Age
- Diabetes
- Hypertension/Pre-eclampsia
- Cholestasis
- Previous traumatic birth
- Antepartum Haemorrhage

- Intrauterine Death
- Fetal indications
- Intra-Uterine Growth Restriction
- Multiple pregnancy

Definitions

Term	Definition
Induction of labour	To artificially initiate uterine contractions. This leads to progressive dilatation, effacement of cervix and birth of the baby. Includes women with intact membranes and those with spontaneous rupture of membranes but not in labour.
Bishop Score	Bishop score is a pre-labour scoring system to assist in predicting whether induction of labour will be required. The total score is achieved by assessing the following five components on vaginal examination. Cervical dilation Cervical effacement Cervical consistency Cervical position Fetal station

Executive Summary

Information and decision-making

Women should be informed that most women will go into labour spontaneously by 42 weeks gestation. At the 38 week antenatal visit, all women should be offered verbal information about the risks associated with pregnancies that last longer than 42 weeks, and their options. These include:

- membrane sweeping
- induction of labour around 42+0 weeks
- expectant management

The doctor or midwife should explain the following points to women being offered induction of labour:

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

Induction of Labour (IOL) for Prolonged Pregnancy (greater than 42 weeks)

Women with uncomplicated pregnancies should be offered IOL by 42+0 weeks to reduce the risk of admission to the neonatal unit, stillbirth and early neonatal death associated with prolonged pregnancy (Middleton et al, 2018). National guidelines suggest the exact timing should take into account the woman's preferences and local circumstances. More recent evidence from the SWEPIS study (Wennerholm, 2019) reported a decreased risk of perinatal mortality at 41 weeks of pregnancy, particularly in primiparous women, compared with expectant management and IOL at 42 weeks of pregnancy. Other neonatal outcomes or caesarean birth did not increase with earlier IOL however it decreased the woman's opportunity to go into spontaneous labour and increased the risk of instrumental birth. Taking into consideration the relative low risk of stillbirth between 41-42 weeks; the increase in criteria for IOL for other clinical reasons/conditions and the capacity in the service, OUHFT are unable to offer all women IOL at 41 weeks of pregnancy at present but will discuss feasibility for IOL from 41 weeks on a case by case basis.

Mechanical IOL

Mechanical induction has become the preferred method of induction of labour, for both inpatient and outpatient induction, unless there are specific clinical reasons for not using it (unable to insert Foley catheter) or, after discussion with woman her preference is towards PGE2 IOL. The main advantage is that it has a more favourable safety profile (70% reduction in hyperstimulation with fetal heart rate changes; 50% reduction in serious neonatal morbidity/perinatal death and 30% reduction in fetal distress) (de Vaan et al, 2019).

Mechanical IOL will either be as an out-patient or in-patient (Appendix 2) depending on the criteria for IOL Appendix 1). We will support any woman who is suitable for outpatient induction but prefers to stay as an inpatient.

Vaginal PGE 2

Vaginal PGE2 is a method of induction of labour. The consultant may request this as the primary method of IOL in women where they want labour to be induced quicker than may be achieved with a mechanical IOL. It should also be considered if artificial rupture of membranes is not possible unless there are specific clinical reasons for not using it (in particular the risk of uterine hyper-stimulation). Within the OUH NHS Foundation Trust this is administered as a 2mg gel.

The recommended regimen is one cycle of vaginal PGE2 tablets or gel: one dose, followed by a second dose after 6 hours if labour is not established (up to a maximum of two doses – see 'Medical Induction of Labour' below). See appendix 4 for use of prostaglandin tablets.

Failed induction

If induction fails, the doctor or midwife should discuss this with the woman and provide support. The woman's condition and the pregnancy in general should be fully reassessed, and fetal wellbeing should be assessed using electronic fetal monitoring. If induction fails, the subsequent management options include:

- A further attempt to induce labour (the timing should depend on the clinical situation and the woman's wishes)
- Caesarean section

Full Guideline

Methods of Induction of labour

Membrane Sweeping

This is not recommended when membranes are ruptured.

Before considering other methods for induction, offer membrane sweep:

- to all women at 41 week antenatal visit or the week prior to their planned IOL
- for women with prolonged latent phase of labour

This may be carried out in the woman's home, antenatal clinic or hospital.

The midwife or doctor should:

- Provide a full explanation of the procedure
- Obtain and record verbal consent
- Inform the woman that membrane sweeping is not associated with an increase in maternal or neonatal infection but the procedure can result in increased levels of discomfort and bleeding
- Provide Trust 'Induction of labour' leaflet
- Ensure the woman has the relevant contact telephone numbers should she go into labour spontaneously

Medical Induction of Labour

Nulliparous and multiparous women

In nulliparous and multiparous women with intact membranes, use mechanical methods in preference to prostaglandin or oxytocin.

Mechanical IOL

Mechanical induction has become the preferred method of induction of labour, unless there are specific clinical reasons for not using it (unable to insert Foley catheter) due to it having a more favourable safety profile (70% reduction in hyperstimulation with fetal heart rate changes; 50% reduction in serious neonatal morbidity/perinatal death and 30% reduction in fetal distress) (de Vaan et al, 2019). However it is important that women have the information to make an informed choice and they may prefer to be induced as an inpatient and have prostin instead.

Mechanical IOL will either be as an out-patient or in-patient (Appendix2) depending on the criteria for IOL Appendix 1)

Vaginal PGE 2

Do not use if there is a significant risk of uterine hyper-stimulation due to intra-cervical prostaglandin administration (i.e. a fully effaced cervix and palpable membranes).

- Administer the first dose of prostaglandin 2mg gel in the posterior fornix of the vagina
- Perform a vaginal examination 6 hours after initial dose of gel to assess the state of the cervix, whether the woman is contracting or not

- If at the next examination, artificial rupture of membranes (ARM) is possible, this should be performed regardless of Bishop score
- **For nulliparous women** (1st baby): if ARM is not possible, administer second dose of prostaglandin 2mg gel vaginally
- **For multiparous women** (2nd and 3rd baby): if ARM is not possible, discuss a second dose of prostaglandin 2mg gel with the duty registrar

The maximum dose of prostaglandin is 4mg gel in 24 hours. If this is not adequate to allow ARM see 'Failed induction' section below.

Multiparous women with a risk of hyperstimulation (4th & subsequent babies)

- If ARM is possible at first examination, this should be performed regardless of Bishop score
- Commence oxytocin infusion as per protocol
- If ARM not possible, mechanical induction should be first option. If prostaglandin is used only 1 dose prostaglandin 2mg gel should be administered vaginally after discussion with consultant
- Maximum dose of prostaglandin is 2mg gel

Following pre-labour rupture of membranes (SROM)

- If IOL is required within 24 hours due to women not meeting criteria for expectant management these women are not suitable for mechanical IOL therefore use oxytocin IVI rather than prostaglandin
- If IOL is required 36-72hours after SROM this should be via oxytocin IVI

Contraindication to induction of labour with prostaglandin

- Previous caesarean section – see '*Vaginal birth after caesarean section guideline*'
- Sensitivity to prostaglandins
- Hypertonic uterine contractions
- Mechanical obstruction to delivery
- Placenta praevia
- Uncontrolled severe pre-eclampsia
- History of existing inflammatory disease, unless adequate prior treatment instituted
- Clinical suspicion or definite evidence of pre-existing fetal distress
- Uncontrolled asthmatic

Antenatal Management and Booking of Planned Induction of Labour

At the 41 week appointment (or the week before planned IOL) the midwife should:

- perform a full routine antenatal assessment (see Antenatal Care Guideline)
- offer a membrane sweep following explanation of the procedure, and perform a sweep if consent is given, informing the woman of the findings afterwards
- explain pregnancy so far and provide woman with opportunity for discussion and questions
- explain she may experience discomfort and the passing of a show
- advise to contact a maternity unit if she experiences bleeding, spontaneous rupture of membranes, abdominal pain or contractions

- arrange admission date and time for induction as per IOL criteria
- record all discussions in the woman's health records indicating her full understanding of her plan of care

Advice where woman wishes to continue pregnancy beyond gestation that IOL is recommended

It is important to have an open conversation with women who choose to continue their pregnancy beyond the gestation that IOL is recommended. Women should have the opportunity to discuss their concerns and have enough information to make an informed choice. The main reasons for IOL are because of concerns regarding either maternal or fetal wellbeing or both. With regard to prolonged pregnancy, concern is mainly the increased risk of still birth, which is approximately double (from 1:1000 to 2:1000). It is important for women who decline IOL to monitor fetal movement pattern and report any changes asap. We recommend women attending for daily fetal monitoring via CTG however they need to be aware that there is no predictive value in this monitoring and it only tells us how the baby is at that time. If she accepts daily CTGS, these can be arranged via Day Assessment Unit.
If a woman expresses in the antenatal period that she would decline IOL, refer to an Obstetric Consultant/consultant midwife who will develop a plan of care.

Admission and management of induction of labour

See Appendix 2

Admit, obtain and review full history, and perform:

- a full antenatal examination
- a full set of observations
- abdominal examination
- fetal heart assessment using Pinard stethoscope or Sonicaid

See below for appropriate place of induction

Further Care:

- Give woman information regarding discomfort associated with procedure and pain relief options
- Obtain verbal consent
- Perform external electronic fetal monitoring (EFM) using a cardiotocograph machine (CTG) until fetal wellbeing is confirmed (usually about 20 minutes)
- Assess cervix using Bishop score and record findings

For Mechanical Induction

- If cervix is <3cm dilated, insert Foleys into cervix
- If unable to insert mechanical induction agent because the cervix is >3cm dilated perform a stretch and sweep examination
- Following insertion of mechanical device, the fetal heart rate should be auscultated via Doppler/pinard
- If the woman has been assessed as suitable for out-patient IOL, she has been assessed as well and there was a normal CTG, she should be discharged home to return the following day for ARM

- The following day, admit for ARM. If Foleys is still in situ, deflate balloon and remove to enable ARM
- If ARM is not possible, discuss with obstetrician re use of prostin or a trial of oxytocin and then ARM

For vaginal prostaglandin

- Insert prostin gel/pessary into posterior vaginal fornix
- Advise woman to remain lying down (left / right lateral) for at least 30 minutes following prostaglandin administration, during which time EFM should continue
- Provided initial monitoring is within normal parameters, discontinue CTG and revert to Intermittent Auscultation (IA)
- Reassess fetal wellbeing using cardiotocography (CTG) trace of 20 minutes once contractions have commenced
- If at any time throughout the procedure the fetal heart rate is outside normal parameters or hyperstimulation evident, continue CTG and inform obstetric registrar/consultant
- As a minimum there should be an hourly review of fetal movements and maternal well-being, unless the woman is asleep or is mobilising off the ward. This should be documented on the Induction of Labour Chart
- (NEW) Maternal observations (temperature, pulse, B/P) should be carried out daily prior to the onset of labour. These should be recorded on the MEOWS chart. Some women will require more frequent observations – in these cases an individual management should be documented in the intrapartum record
- Encourage the woman to mobilise freely and consider using non-pharmacological pain relief
- Use of oxytocin is an indication for continuous EFM

Antenatal management of planned induction of labour (High Risk Pregnancies)

Decision to offer Induction of labour other than for prolonged pregnancy should be made by a consultant.

Place of induction *(NEW in v3.0)*

Mechanical IOL

This should occur in the IOL bay on level 6 by a member of staff skilled in this method of IOL

Prostaglandin gel

Most women will be given the prostaglandin gel in the IOL bay as long as there is adequate staffing to allow appropriate monitoring. However, if the CPR measurement is < 1 on the 36 week USS then the gel should be given on Observation Area or Delivery Suite.

Artificial Rupture of Membranes (ARM)

Most women can have the ARM in the IOL bay as long as there is adequate staffing to allow appropriate monitoring. However, the ARM should happen on Observation Area or Delivery Suite if:

- the CPR measurement is < 1 on the 36 week USS
- this is a multiple pregnancy

- the woman is diabetic on a basal bolus insulin regime (see Diabetes guideline)
- the fetal head is not fixed in the pelvis (due to the risk of cord prolapse if ARM is performed when the fetal head is not engaged)

Induction of labour in women with a previous caesarean section

See also Vaginal Birth After Caesarean Section (VBAC) Guideline.

The decision to induce a woman with a previous caesarean section should be made by a Consultant Obstetrician/Midwife after a vaginal examination including an offered membrane sweep.

The Consultant should discuss the following with the woman:

- decision to induce labour
- proposed method of induction
- decision to augment labour with oxytocin
- time intervals for serial vaginal examination in labour
- selected parameters of progress that would necessitate discontinuing VBAC

These should be documented in the woman's maternity record.

Induction:

- is ***not*** absolutely contraindicated for women who have had one previous lower segment caesarean section
- should not be undertaken for women who have had two or more lower segment caesarean sections
- should not be undertaken in women who have had a classical caesarean section.

The Consultant should discuss success rate of VBAC (approximately 70%) and relative/absolute risks of induction of labour with woman. Clinicians should refer to RCOG (2015)Greentop guideline as part of their consultation

Appendix V: VBAC success and uterine rupture risks of planned VBAC labours

		Spontaneous	Induced	Augmented
AHRQ meta-analysis[9]	VBAC success	*74% (95% CI 72–75%)	63% (95% CI 59–67%)	68% (95% CI 64–72%)
	Uterine rupture	*0.47% (95% CI 0.28–0.68%)	1.2% (95% CI 0.7–1.9%)	1.1% (95% CI 0.9–1.5%)
NICHD study[18,203] (n = 17 898 VBACs)	VBAC success	80.6%	67.4%	73.9%
	Uterine rupture	0.36%	1.02%	0.87%
Australian population study[22] (n = 10 958 VBACs)	VBAC success	52.6%	51.4%	61.6%
	Uterine rupture	0.15%	0.68%	1.91%
UK Obstetric Surveillance System case–control study[20]	Uterine rupture	0.13%	0.36%	0.28%

*refers to overall rates when spontaneous, induced and augmented labours are combined, although the large majority of data are derived from spontaneous labour.

- 2-3 fold increased risk of uterine rupture
- 1.5 fold increased risk of emergency caesarean section.

The woman's consent should be documented in the maternity record.

Which is the safest method of induction in VBAC?

- A Cochrane review suggests that there is insufficient evidence to recommend a particular method of induction (ARM, vaginal prostaglandins or intracervical Foley catheter)
- However, induction with vaginal prostaglandins may be associated with an increased risk of uterine rupture compared with non-prostaglandin induction
- Oxytocin may be associated with a higher risk of uterine rupture when used to overcome delayed progress despite adequate contractions
- Oxytocin doses > 20 milliunits/minute are associated with at least a 4 fold increase in risk of uterine rupture

Recommendations

- If possible, ARM should be performed ***without*** the use of vaginal prostaglandins
- If ARM is not possible then consider an intracervical Foley catheter
- Vaginal prostaglandin should ***not*** be given without discussion with an obstetric consultant
- If there is delayed progress due to inadequate contractions then oxytocin may be used with caution
- Oxytocin should be administered as per the VBAC guideline.

For guidance on how to insert a Foley catheter for IOL please see Appendix 6.

Process for when the Service is Unable to Induce Women Due to Workload

There will be occasions when accommodating the IOL work in a timely fashion may be challenging due to volume and complexity of emergency work in the Delivery Suite.

At the beginning of the day shift at 08.00 the Delivery Suite Co-ordinator, Registrar and Consultant Obstetrician will review the IOL work for the day. If delays are anticipated, collaboratively the team will decide and plan any necessary rescheduling along with an explanation and apology to the woman and her partner. A specific plan of care for each woman should be documented in the maternal health records. Any rescheduling should be made by midday at the latest. This should be only under exceptional circumstances and ideally IOL should continue as planned.

Uterine hyper-contractility

In the presence of abnormal fetal heart rate patterns and uterine hyper-contractility, consider subcutaneous Terbutaline 250 microgram.

- Position the mother into left lateral position
- Stop oxytocin infusion if this is in use
- Notify medical staff

Use of Terbutaline notes:

Contra-indications: Heart disease, Cardiac arrhythmia, Hyperthyroidism

Observations: check pulse rate and blood pressure, and if the woman is diabetic also check blood sugar level

Side effects: palpitation, tremor, nausea

Watch for: breathlessness, chest pain

Failed induction of labour

If ARM is not possible following two doses of prostaglandin gel, the woman should be reviewed by a senior obstetrician for consideration of a third prostaglandin gel (not to exceed 4mgs in 24 hours). If ARM is still impossible after a third dose of prostaglandin gel, induction of labour has failed.
Discuss with a consultant obstetrician and discuss the options with the woman including:

- caesarean section
- abandon process and await onset of labour
- using further dose of prostaglandin without interval

In some cases, consideration may be given to using oxytocin infusion with intact membranes on consultant advice only.

A plan of care will be made based on the consultant's input and woman's decision and documented in the woman's health records.

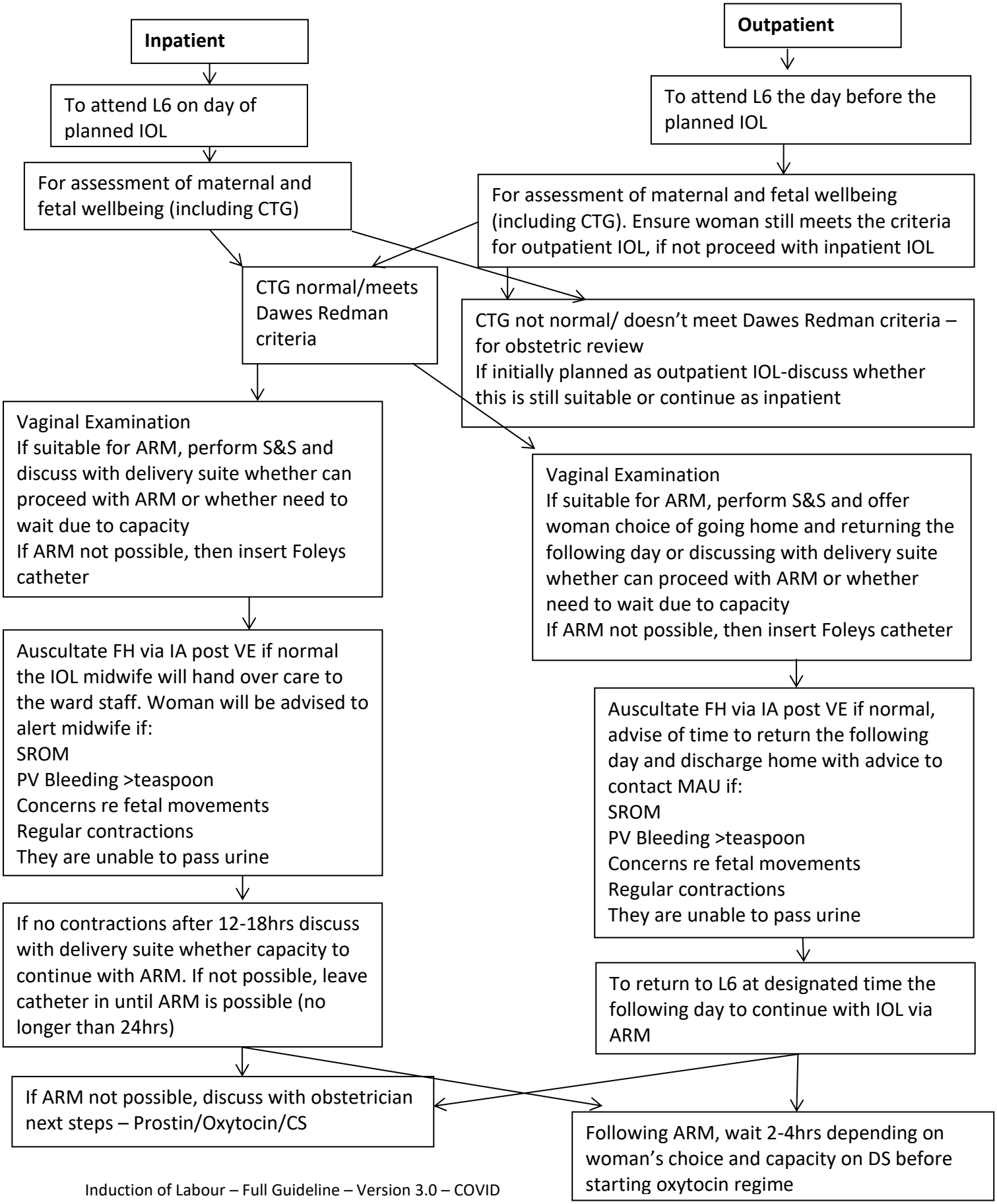
Appendix 1 – Criteria for Inpatient and Outpatient IOL

Suitable for outpatient IOL April 2020	
Yes	**No** (***unless consultant approval**)
Prolonged pregnancy (up to T+14)	GDM: insulin
Parity ≤ 3	PIH/ PET requiring BP monitoring
	Multiple pregnancy
Any/Advanced maternal age (40yr +)	Previous Caesarean
Previous traumatic birth/ MOB pathway	Any IOL with prostin
GDM: diet/ metformin	*SGA baby: <3rd centile EFW CPR <1.1 or umbA >95th centile
Obstetric Cholestasis with BA <100	≥ 42 weeks
Some Silver Star/FMMU women*	Parity ≥ 4
LGA baby	Free fetal head
Parity ≤ 3	APH in last 2 weeks
Cephalic presentation	Significant social complexity
Cervix not suitable for ARM	Any CTG concerns on pre IOL CTG assessment
Intact membranes	Limited English
APH over 2 weeks ago	Women with no telephone
	OC with BA > 100

*For Silver Star/FMMU women, the team will advise at time of booking whether women are suitable for In-patient or Out-patient

If any query regarding suitability for outpatient IOL discuss with consultant on DS

Appendix 2 – Management of Inpatient and outpatient Mechanical IOL



Appendix 3 – Induction of Labour at Term for Older Women

Key Recommendations

Consider offering induction of labour at 39-40 weeks if:

- Aged 45 or over

Consider offering induction of labour at 41 weeks if:

- Aged 40-44

In the UK the proportion of maternities in women aged 40 is almost 4% and the average age of childbirth is continuing to increase. Maternal age is associated with an increased risk of obstetric complications including placental abruption, placenta praevia, malpresentation, low birth-weight, preterm and post–term delivery, stillbirth and postpartum haemorrhage.

Due to the decline in fertility with advancing age there is a greater use of assisted reproductive technologies and the possibility of multiple pregnancy increases. This may also increase the risks reported.

Pre-existing maternal medical conditions including hypertension, obesity and diabetes increase with advancing maternal age as do pregnancy related maternal complications such as pre–eclampsia and gestational diabetes. These medical co–morbidities can all influence fetal health and are likely to compound the effect of age on the risk of pregnancy in an older mother.

The incidence of stillbirth at term in women is fortunately low. However, it is higher in women of advanced maternal age. At 39–40 weeks of gestation this equates to 2 in 1000 for women ≥ 40 years old compared to 1 in 1000 for women < 35 years old. Women ≥ 40 years of age having a similar stillbirth risk at 39 weeks of gestation to women in their mid-20s at 41 weeks of gestation, at which stage the consensus is that induction of labour should be offered to prevent late stillbirth.

Aim

Ensure induction is offered appropriately to women 40 years old or over

Conditions often managed by offering elective induction

Some chronic conditions that may be managed at all ages by offering elective induction of labour are more common in older women.

Please refer to the relevant guidelines. These include:

- Chronic hypertension
- Diabetes
- Multiple pregnancy
- Gestational diabetes
- Obstetric cholestasis
- Known growth restricted fetus / Abnormal umbilical or uterine artery dopplers

Advice where a woman aged 40 or older wishes to continue pregnancy beyond 41 Weeks

Women aged 40 and older who choose to continue their pregnancy beyond 41 weeks, despite adequate explanation of the risks, should be advised to continually monitor fetal movement pattern.

Midwife Responsibilities:

Make an appointment at the Day Assessment Unit to arrange cardiotocography (CTG)

Appendix 4 – Induction of Labour using Prostaglandin Tablets

If prostaglandin gel is not available then prostaglandin tablets can used instead.
These tablets contain the same drug (prostaglandin E2) as the more usual prostaglandin gel, but the bio-availability (the amount that gets released into the woman) is different. For this reason, the standard dose is different.

Prostaglandin vaginal tablet 3mg is equivalent to prostaglandin gel 2mg.

Trials show that there is no significant difference in the maternal outcomes where 2-3mgs of prostaglandin are used. The caesarean section rate and outcomes for the baby are similar.
However, there is a non-significant increase in the need for oxytocin augmentation in women given tablets, so gel should still be used as a first choice option if it is available.

Nulliparous Induction

Time	Does of prostaglandin
0 Hours	If Bishop score ≤ 5, give prostaglandin vaginal tablet 3mg
6 Hours	If Bishop score ≤ 5, give prostaglandin vaginal tablet 3mg
24 Hours	Perform ARM, commence oxytocin infusion within 2 hours of ARM

Use the same regime for women being induced for pre-labour SROM

Multiparous Induction without a uterine scar

Time	Does of prostaglandin
0 Hours	If Bishop score ≤ 5, give prostaglandin vaginal tablet 3mg
6 Hours	Perform ARM, start oxytocin infusion within 2 hours of ARM. Be ready to reduce dose of oxytocin or stop the infusion when labour establishes

Use the same regime for women being induced for pre-labour SROM

Multiparous Induction with a uterine scar - See VBAC guideline Appendix 5

Appendix 5 – Audit and Monitoring

Compliance Standard	Monitoring method	Frequency of monitoring	Review Group/Committee
Induction for prolonged pregnancy	Audit	At least every three years	MCGC
Induction for previous caesarean section	Audit	At least every three years	MCGC
Maternal and fetal observations prior to established labour	Audit	At least every three years	MCGC
Process for dealing with maternal requests for labour	Audit	At least every three years	MCGC

Appendix 6 – Insertion of Foley Catheter for IOL

Instruments required

- Sterile gloves and aqueous gel
- Foley catheter (16 Fr in size- this can hold 30 mls of sterile water)
- 50ml syringe
- Bowl with 30ml of water
- Mepore or other similar tape
- Cusco's speculum (with a lock), sponge holding forceps, torch/light source (not a mobile phone) may be required

Preparation

- The woman will be admitted as usual to the Induction of labour bay
- Usual pre-induction of labour assessment by the midwife including: CTG until Dawes Redman/DR C Bravado criteria are met
- Verbal informed consent is obtained for the procedure and documented
- The woman is placed initially in a semi-recumbent position, however if the procedure is unsuccessful in this position, the woman can adopt a lithotomy-like position
- consider use of Entonox for women who find the procedure too uncomfortable
- A trained midwife or Obstetrician can perform this procedure
- Sterile Cusco's speculum can be used to visualise the cervix if unable to insert digitally

Procedure

- A vaginal examination is performed to assess the length of the cervix
- The Foley catheter is held between fingers and inserted into the cervix – aim for balloon to be inflated in extra amniotic space.
- The Foley catheter is inserted into the cervix and the balloon is slowly inflated –if the balloon is felt digitally to be outside cervix then deflate balloon and insert catheter further before trying to inflate balloon again
- If speculum and sponge holding forceps required, avoid holding the sponge holder over the balloon end of the catheter
- Inflate with 30mls of water
- When the balloon is inflated, pull the catheter gently downwards so that the balloon is applying pressure to the internal cervical os and tape the catheter to the woman's inner thigh
- There is no need for a routine CTG after the procedure, auscultate the FH using IA following the VE

Post-insertion of balloon management

- Women who meet the criteria for outpatient IOL, will be discharged home to return the following day to proceed with their IOL unless they go into spontaneous labour in the interim. If they are in patients, they will stay on level 6 until they go into labour or they are ready for the next stage of the IOL pathway

- If spontaneous rupture of membranes has occurred and the balloon is still in situ then remove balloon. Following SROM treat as usual induction undergoing SROM and assess for oxytocin requirement.
- If the balloon is expelled then continue with artificial rupture of membranes (ARM)
- For inpatients, the next stage in the process will take place 12-18hrs after balloon insertion. For outpatient IOL, women will return to IOL bay the following day for reassessment and for ARM if suitable
- If the balloon is still in situ, remove and assess the cervix for ARM. If cervix is not favourable for an ARM after 24 hours- consider trial of oxytocin, prostin or a caesarean section.

Important Points

- If the balloon is expelled the cervix is usually dilated to greater than 3cms and ARM should be possible. Decision for timing of ARM should be based on clinical safety grounds-maternal/fetal and labour ward status
- If there is spontaneous rupture of membranes and the balloon is in situ –remove the balloon and reassess the woman to consider oxytocin (there is a risk of infection with SROM if the balloon remains in situ)
- If the cervix is uneffaced, a trial of oxytocin can be considered, to be decided on a case-by-case basis, after discussion with the Consultant.
- The balloon is not associated with uterine hyperstimulation so if it occurs consider possibility of uterine rupture or labour

Appendix 7 – Criteria for booking induction of labour (Updated in v3.0)

CLINICAL CONDITION	RECOMMENDED GESTATION OF IOL (WEEKS)*		PRIORITY LEVEL*
	Minimum	Maximum	
POST DATES		42+0	1
PRE-EXISTING DIABETES (Individual plan by Diabetic team depending on clinical picture) Type 1 or 2	37+0	38+6	1
GDM LOW RISK Diet/Metformin Stable blood glucose (most readings in target) Normal amniotic fluid volume & normal growth	40+1	40 + 6	2
GDM POSSIBLE COMPLICATIONS *Macrosomia (AC >95th centile and/or EFW >95th centile at 36 weeks accelerated growth from previous scans) on case by case basis/consultant decision Poor blood sugar control		40+6	1
MATERNAL AGE 40-44 years old at booking (otherwise low risk) ≥ 45 years old at booking	 38	 41 39	 2 2
IUGR/SGA (FGA Clinic) Including low CPR/Raised Dopplers	Booked through FGA clinic only		1
PRE-ECLAMPSIA (only if inpatient) Diagnosed at <37+0 Diagnosed at ≥37+0 weeks	 Consultant decision Induce as soon as possible after diagnosis (usually within 48 hours)		 1 1
HYPERTENSION (non-proteinuric and normal bloods) Not requiring admission	41	onwards	2
RAISED PCR (≥ 30)	41	41+3	2
OBSTETRIC CHOLESTASIS (irrelevant of treatment): Bile acids > 40 (AT ANY STAGE) Exception if bile acids >100	39+1	40	2
SYSTEMIC LUPUS ERYTHMATOSIS (SLE) (no other complications)	41	41+3	3
SLE (with complications)	Booked via SS		2

PATIENTS ON FULL THERAPEUTIC ANTICOAGULATION IF MDT RECOMMENDS NOT SPONT LABOUR After discontinuing LMWH for 24 hours – to avoid repeated episodes of missing anticoagulation		41	1
APH (ONLY IF INPATIENT AND EMERGENCY)	Individualise		1
↓PAPP-A / ↑Ut AD but normally grown and no evidence of PET (if SGA then must be booked through FMU): Either • UtAD @20 weeks: combined PI> 3.0 Or • ↓ PAPP-A < 0.31	40+4	41	2
Multiple pregnancy – DCDA twins	37	38	2
FETAL ANOMALY Only gastroschisis / neural tube defect / in-utero therapy / MCDA twins (not others)	Booked through FMU		1

PREVIOUS TRAUMATIC BIRTH / SPECIAL ARRANGEMENTS FOR PARTICULAR CLINICIAN TO ATTEND BIRTH	Booked through Mode of Birth clinic Ideally not earlier than 39 weeks	Liaise with relevant clinicians if needs to be deferred
Previous Intrauterine fetal demise	Usually at 39 weeks but can be 38-39 weeks if 2 consultant obstetricians agree	
MENTAL ILLNESS	Booked ONLY as part of Perinatal Mental Health plan following MDT	1

NOT AN INDICATION FOR IOL
IVF
PGP
Epilepsy
Polyhydramnios
Reduced fetal movements (unless another indication)
ITP (unless arranged by SS Team)
Anxiety / other mental illness unless part of perinatal mental health plan
Haemophilia
APH not admitted
VBAC

***RECOMMENDED GESTATIONAL AGES AND PRIORITY LEVELS**

Priority Level 1: Recommended to book IOL at **minimum** gestation. If this day is full then there is flexibility to look at the following days up to the maximum gestation if the service is under pressure. Once booked priority 1 cases should not be moved.

Priority Level 2: Recommended to book IOL close to or at **maximum** gestation (not to go beyond maximum). If this day is full then there is flexibility to look at the preceding days and bring the IOL forwards if required.

Priority Level 3: Could be deferred if there are more urgent cases – Not to be a priority above Level 1 or 2.

PLEASE NOTE Screening of IOL requests will occur on a daily basis and requesters will be asked to contact the woman if the request does not meet the department agreed criteria on indication or timing

Appendix 8 – Suggested structure/timings for Mechanical IOL *(NEW in v3.0)*

	Day 1 Foleys	Day 2 ARM	Proposed DS admission NB it may be earlier/later depending on capacity
A	0900hrs	0800hrs	1200hrs
B	1115hrs	1000hrs	1400hrs
C	1315hrs	1215hrs	1615hrs
D	1545hrs	1445hrs	1845hrs
E	1745hrs	1645hrs	2045hrs

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