Induction of Labour Guideline

Specialty: Maternity Services
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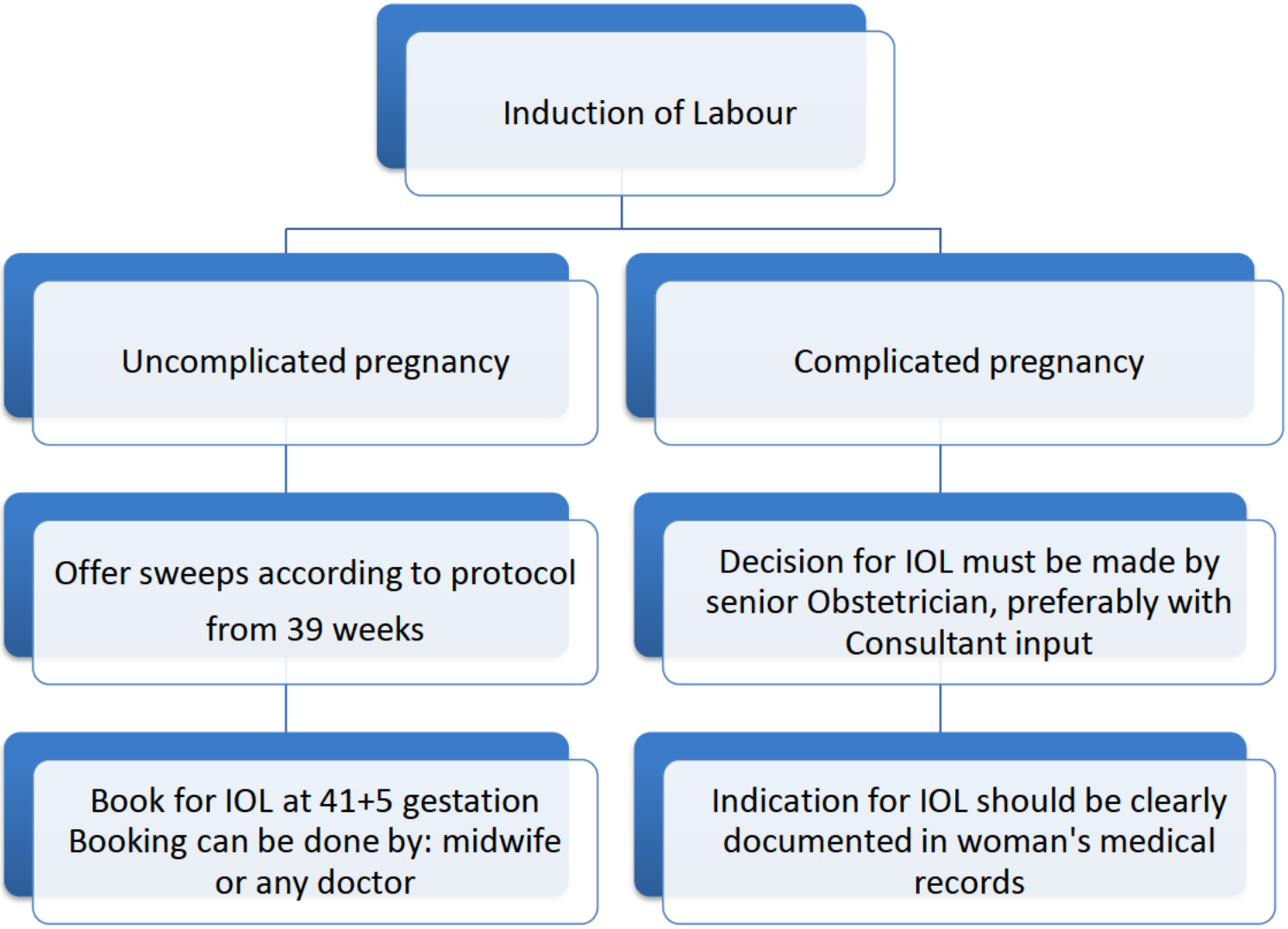
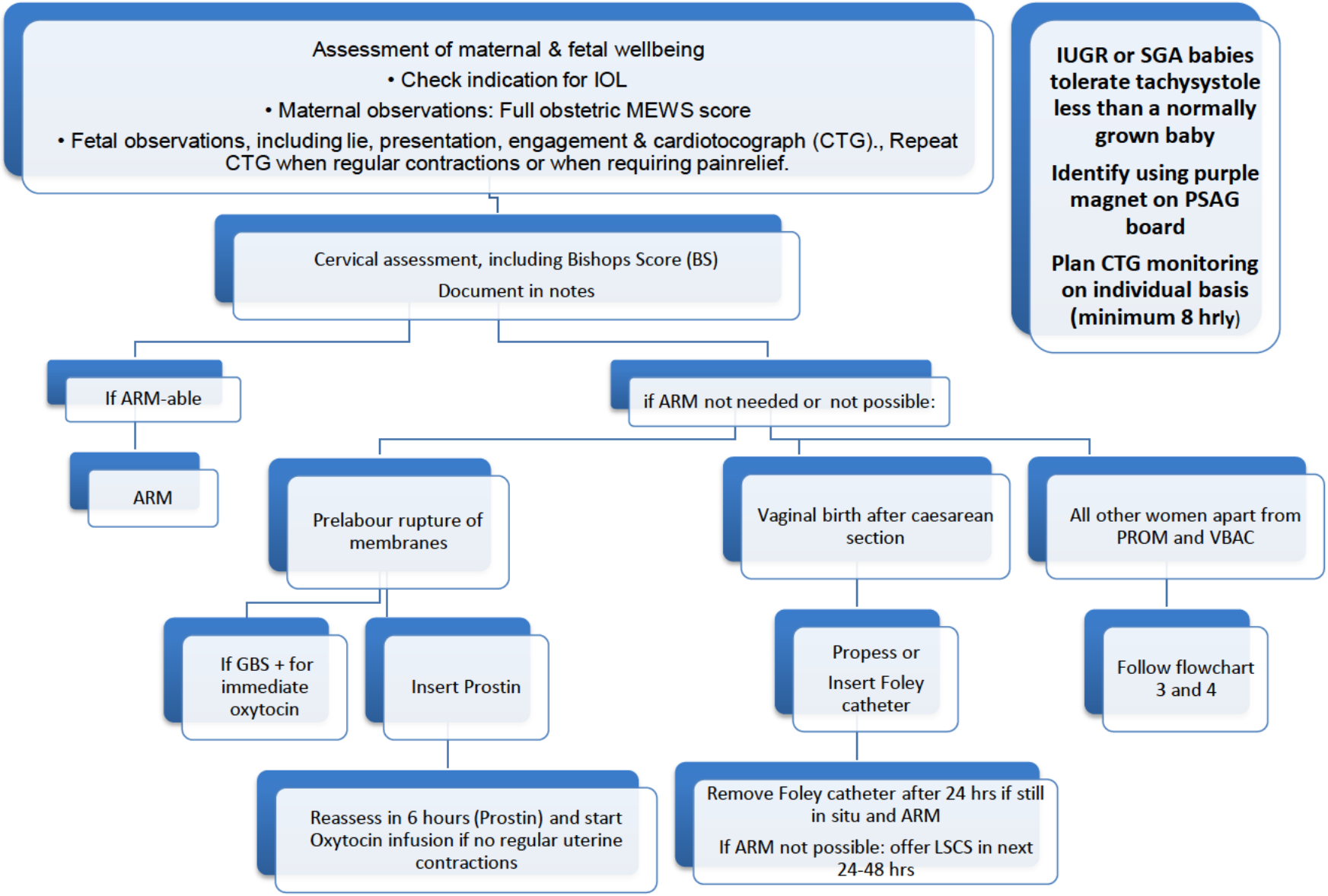
Contents

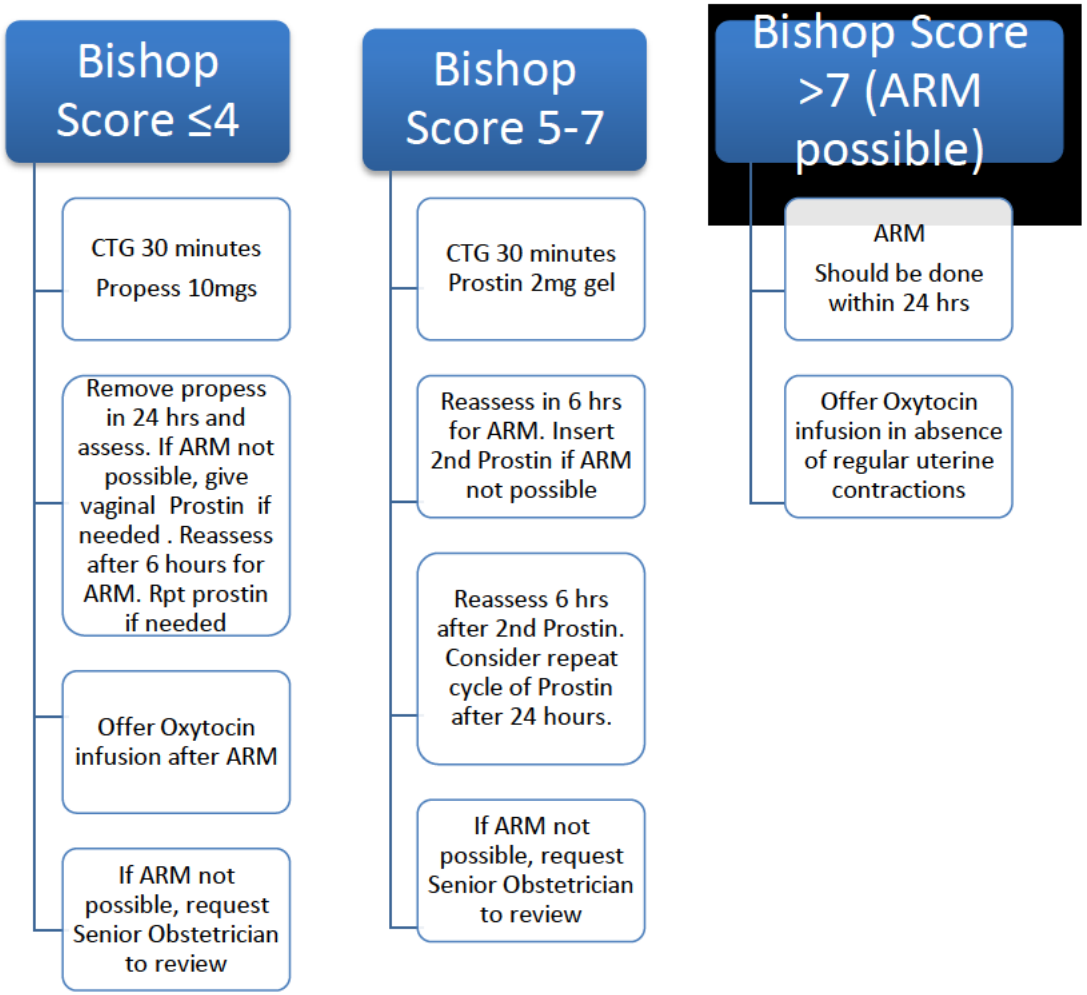
Flowchart 1: Planning Induction of Labour



Flowchart 2: Methods and procedure of Induction of Labour



Flowchart 3: Induction of Labour with Prostaglandins



Note: Patients who have reached the stage where ARM is possible should not wait longer than 24 hrs to have this performed on labour ward **(please DATIX if ARM delayed by more than 24 hours)**

Flowchart 4: Induction of labour with Propess

Dinoprostone (Propess) vaginal pessary releases 0.3 mgs/hr up to 24 hrs

Contraindications

1. History of hypersensivity to prostaglandines
2. If woman is already in labour
3. Previous vertical caesarean section

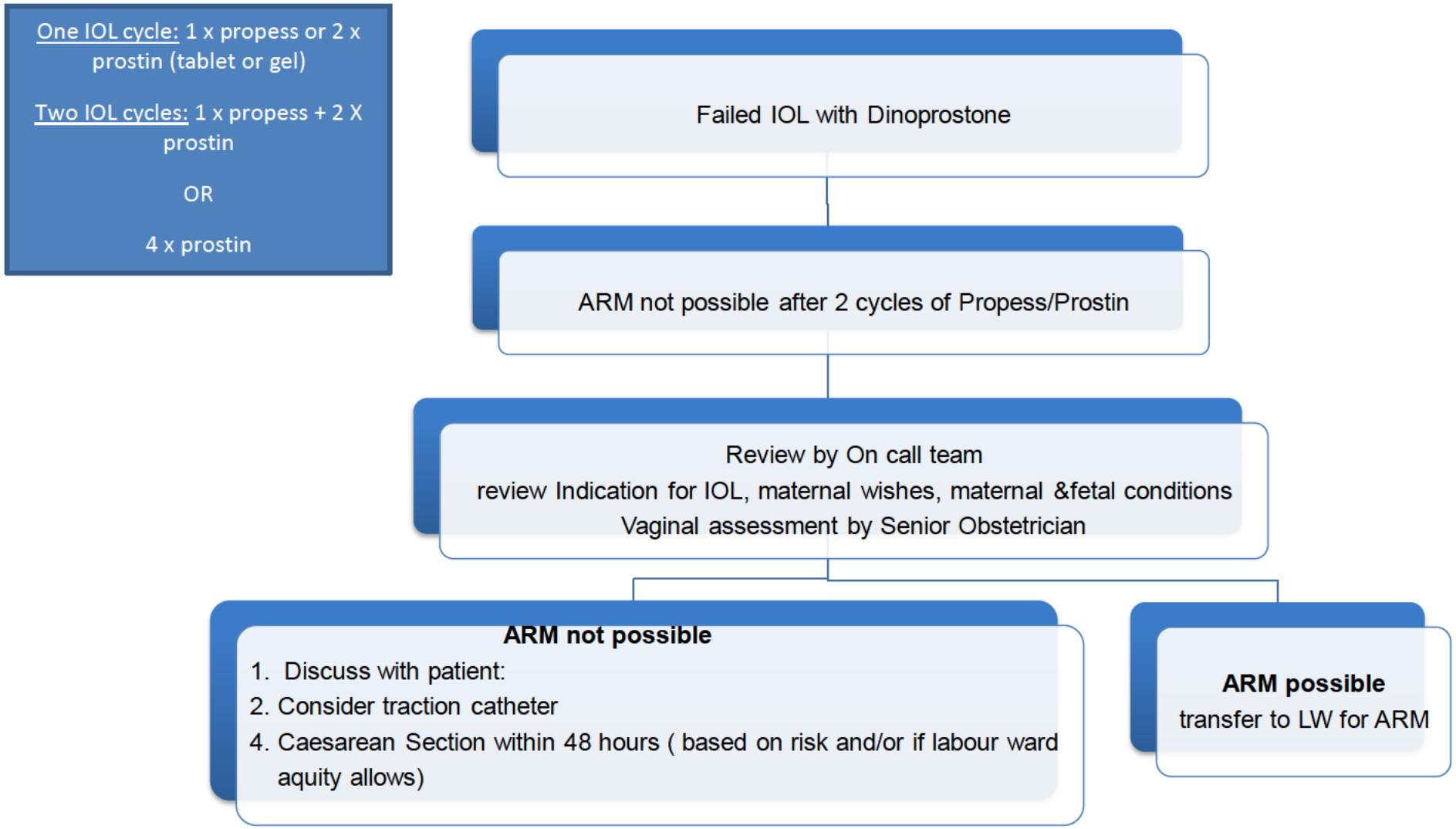
When to remove Propess

1. 24 hrs after insertion
2. If cervical changes allow ARM (BS>6)
3. Remove Propess 30 minutes before ARM
4. Remove immediately if:
   - Uterine hyperstimulation with CTG abnormlities
   - Abnormal CTG
   - PV bleeding
   - Rupture of membranes

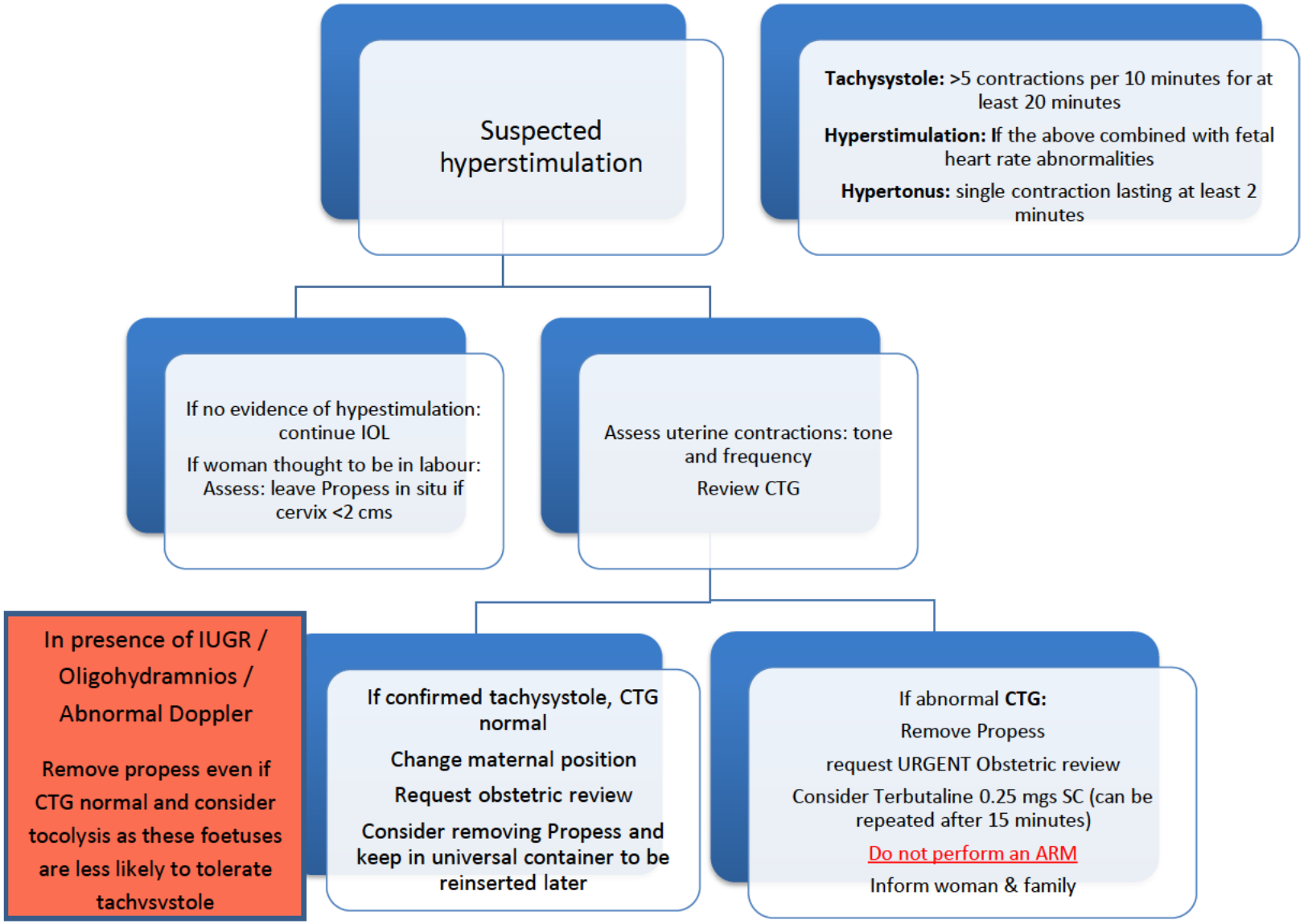
If Dinoprostone (Propess) vaginal pessary falls out & contaminated, a new one to be inserted to complete the 24 hour duration

Flowchart 5: Failed IOL after 2 cycles of prostaglandins:

After 1 failed cycle of Propess/ vaginal Prostin, 2 more Prostin tablets or gel can be given. If the patient is still not in labour within the next 24 hours proceed as follows:



Flowchart 6: Management of uterine hyperstimulation (see hyperstimulation guideline)



1. Overview

Induction of labour is the process of artificially stimulating the uterus to start labour. This can be accomplished by administering oxytocin or prostaglandins to the pregnant woman or by manually rupturing the amniotic membranes.

Induction of labour should be performed only when there is a clear medical indication for it and the expected benefits outweigh its potential harms.

2. Objectives

This document is for use by all the Swansea Bay University Health Board employees working in and alongside the Women's Health Directorate caring for all women who require induction of labour.

3. Definitions/Abbreviations

IOL	Induction of labour
Propess®	The trade name for the drug dinoprostone 10 mgs
Prostin®	The trade name for the drug dinoprostone vaginal gel/tablets
ARM	Artificial rupture of membranes
S & S	Stretch and sweep of membranes
PPROM	Preterm premature rupture of membranes
PROM	Prelabour rupture of membranes
Syntocinon ®	The trade name for the synthetic drug oxytocin, a natural hormone
LW	Labour ward
IA	Intermittent Auscultation
CTG	Cardiotocograph
CS	Caesarean Section

4. Roles and responsibilities

4.1 Midwife

- To provide the majority of care for women during IOL in accordance with SBUHB standards.
- Provide Induction of Labour information to women and to explain why sweeping of the membranes is recommended and perform the "sweep" in accordance with guidance
- To identify any deviations from normal regarding either woman or baby and escalate appropriately
- Ensure all appropriate documentation is completed which must include documentation of delays in care and reasons for delay

4.2 Labour Ward Coordinator

- To allocate staff that have the skills and competencies to meet the needs of the individual women
- Assist midwives to refer women to the obstetric staff as required
- To aid the senior obstetric team to prioritise women awaiting transfer to Labour ward.

4.3 Obstetric Medical Staff

- Provide Induction of Labour information to women.
- Ensure all appropriate documentation is completed
- Book admission date to ward 19 and provide woman with contact details
- Review maternal and foetal observations during the process of induction and ensure an individual management plan is made. This plan must include foetal assessment and timing of next review.
- Following discussion with the LW Coordinator, Senior Obstetric staff (ST6-7 or above) will prioritise the women awaiting transfer to Labour ward and document in medical records.

5. Indication for IOL/Special circumstances

5.1 Prolonged pregnancy

Women should have the opportunity to discussed management options for prolonged pregnancy at every routine antenatal appointment from 38 weeks (NICE, 2021)
Women with uncomplicated pregnancies should be offered IOL from 41+5 weeks
Women who would decline IOL after 42 weeks should be referred to Obstetric led care to develop a care plan this will include a recommendation for increased fetal surveillance by twice weekly cardiotocograph (CTG) and weekly liquor volume assessment.

All women should understand be provided with the following risk ratios to aid decision making.

Table 2: Outcomes for women that may be more likely with induction at 42 weeks (mixed parity)

Outcomes	Induction of labour at 41 weeks	Induction of labour at 42 weeks	Risk difference
Perinatal death	About 4 per 10,000 babies would be expected to die (so 9,996 would not)	About 35 per 10,000 babies would be expected to die (so 9,965 would not)	About 31 more babies per 10,000 whose mothers gave birth at 42 weeks would be expected to die; so for about 9,969 babies per 10,000 the outcome would be the same irrespective of the timing of induction
NICU admission	About 300 per 10,000 babies would be expected be admitted to NICU (so 9,700 would not)	About 440 per 10,000 babies would be expected to be admitted to NICU (so 9,560 would not)	About 140 more babies per 10,000 whose mothers gave birth at 42 weeks would be expected to be admitted to NICU; so for about 9,860 babies per 10,000 the outcome would be the same irrespective of the timing of induction

Routine IOL at 41 weeks decreases the perinatal mortality rate without increasing the caesarean section rate.

5.2 Obstetric / Medical / Surgical complications

In the presence of obstetric complications

Refer to relevant guidelines for the management of individual obstetric conditions including hypertensive disorders, diabetes in pregnancy among others. In pre-existing diabetes delivery should be planned between 37 and 40 weeks gestation (NICE 2014). This will either be by induction of labour or by Caesarean Section depending on obstetric considerations.

In the presence of medical / surgical complications

When there are significant recognised risk factors present, the decision, method and timing of the intervention should be taken at consultant level.

5.3 Maternal request for IOL

Maternal request for IOL should be considered when there are compelling psychological and/or social reasons and the woman has a favourable cervix (i.e a cervical assessment should be performed prior to booking IOL to inform decision making). These cases should be few in number and should be treated individually and be dealt with at Consultant level. In exceptional cases a second opinion from a Consultant colleague may be appropriate. IOL may be considered from 40 weeks gestation.

5.4 Pre-labour rupture of membranes: term

IOL reduces the risk of infection when PROM and women who are 37+0 or more should be offered to have expectant management for 24 hours (with the exception of women who have been identified as GBS positive in this pregnancy), or IOL as soon as acuity allows.
Women undergoing IOL for PROM should only be given 1 induction agent. All women with a bishops score <7 should receive Prostin gel 2mg in the absence of uterine activity. Vaginal examinations should be kept to the minimum and delays in IOL reduced as much as possible. After 6 hours women should be offered an oxytocin infusion. SROM must be confirmed prior to starting oxytocin. If forewaters are present an ARM should be performed prior to starting oxytocin.
GBS positive women with SROM should be offered IOL as soon as possible and intrapartum antibiotic prophylaxis recommended.
(Refer to Preterm Prelabour Rupture of Membranes Guidelines in relation to IOL in women with PPROM)

5.5 Women with previous Caesarean section

Options for IOL in women with one previous CS include membrane sweep, Propess, amniotomy, and Foley catheter. The use of prostaglandins and oxytocin increases the risk of uterine rupture in women with previous caesarean section.(Uterine rupture rates

of 5 in 1000 for spontaneous labour, 7 in 1000 for traction catheter and 25 in 1000 for prostaglandin)

Women should be informed of the increased risks of emergency CS and uterine rupture related to IOL (NICE 2008). Greater consideration should be given to mechanical methods of IOL.

5.6 Breech presentation

Induction of labour is not recommended if the baby is in the breech presentation (NICE 2008) but can be performed if the birth needs to be expedited and ECV (External Cephalic Version) is declined, contraindicated or unsuccessful and the woman declines CS. Decision to offer IOL with a breech presentation must be made by a Consultant Obstetrician.
Refer to Management of Breech Presentation guideline on Wisdom.

5.7 Small for Gestational Age

Refer to the 'Management of the Small for Gestational Age Foetus' guideline for guidance on IOL timings.

SGA (< 10th centile) with normal doppler: IOL can be undertaken on Ward 19. CTG should be performed every 8 hourly even in absence of contractions as well as when requesting analgesia or when contractions start.

If SGA (<10th centile) with abnormal Doppler IOL can be considered but must take place on labour ward, with minimum 2 hourly monitoring. Continuous CTG should be commenced when contractions start.

5.8 Precipitate labour

Induction of labour to avoid a birth unattended by healthcare professionals should not be routinely offered to women with a history of precipitate labour (NICE 2021)

5.9 Intrauterine Death

- In the event of an IUD offer support and information on specialist support. If the woman is physically well, her membranes are intact and there is no evidence of infection or bleeding, she should be offered a choice of immediate IOL or expectant management. Immediate IOL is the preferred management option if there is evidence of ROM, infection or bleeding.
- Women should be offered IOL by pharmacological methods (Mifepristone followed by vaginal prostaglandins or Misoprostol (PGE1)) or mechanical methods (Traction catheter or ARM).
- The risk of uterine rupture is increased with women with an IUD and a previous CS; therefore the prostaglandin dose should be reduced accordingly, particularly in the

third trimester, and greater consideration should be given to mechanical methods of IOL.

- Misoprostol should only be offered as a method of IOL to women who have an IUD (NICE, 2008) (refer to the Bereavement Care Pathways on Wisdom). Women should be offered 1 to 1 midwifery care with the same monitoring of uterine contractions.

5.10 Suspected Fetal Macrosomia via ultra sound scan

- If the EFW is above 97th centile on personalised GROW chart with a normal GTT, the woman should be referred to OLC.
- Obstetrician should discuss with woman further management of her pregnancy with regards to timing and mode of delivery.
- For women with suspected macrosomia IOL reduces the risk of shoulder dystocia but increase the risk of 3rd or 4th degree tears compared to expectant management. Perinatal death, brachial plexus injury and CS rates are the same in induction versus conservative management (Cochrane).
- For women with Diabetes See Diabetes, Management of women (Wisdom) and NICE diabetes in pregnancy guidelines.

5.11 Maternal age

There is evidence that women ≥40 years of age have 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. However management of each case will be individualised by the consultant team depending on the woman's bishop score, parity and maternal choice and documented in maternity notes [15,3]

5.12 Recurrent reduced foetal movements

Refer to the 'Altered Fetal movements' guideline and individualise woman's care accordingly. IOL for reduced fetal movements should not be routinely offered until 39 weeks.

5.13 Obstetric cholestasis

- If Bile acid >100 µmol/l IOL at 37 weeks is indicated
- If Bile acid <= 100 µmol/l offer IOL at 40 weeks.
- Note: ALT and AST levels are not associated with adverse Foetal outcomes and should not be used as an indication for IOL (Pitches trial [15,13]).

5.14 Ethnicity and Deprivation

The 2020 MBRRACE report identified that still birth rates vary according to maternal ethnicity and deprivation with a stillbirth rate of 47/10,000 in the most deprived areas to 26/10,000 in the least deprived areas. Caucasian women have a stillbirth rate of 34/10,000, Asian women 53/10,000 and Black women

74/10,000. These factors should be considered when discussing IOL. NICE (2021) recommend consideration to induction of labour from 39 weeks

6 Decision Making

When offering IOL to women it is important to discuss the reasons for the recommendation, the risks and benefits, and the impact on her birth preferences. This discussion should also include alternatives such as expectant management and caesarean section. Women should be given time to consider the information given and discuss with her partner if she wishes. Information should be supported by the patient information leaflet. Women must be given an opportunity to ask questions. Women may choose to decline, delay or stop the IOL process and this decision should be respected. Women should have the opportunity to discuss their decision again at future visits if she wishes. Women should be able to contact the maternity unit or her midwife if she changes her mind.

Women can be offered a membrane sweep after 39 weeks gestation as part of the discussion around IOL. Women should be informed what a membrane sweep entails, that spontaneous labour is more likely to occur following a sweep, and that the procedure can be associated with pain, discomfort and vaginal bleeding. Membrane sweeping involves the examining finger passing through the cervix to rotate against the wall of the uterus, to separate the chorionic membrane from the decidua. If the cervix will not admit a finger, massaging around the cervix in the vaginal fornices may achieve a similar effect. Should labour not start following a membrane sweep then the process can be repeated (usually every 48 hours).

7 Day of admission

Women requiring induction of labour will be admitted to ward 19 in Singleton hospital
If induction is required on labour ward, this will be an Obstetric Consultant decision and should be clearly documented in maternal notes.

If bed capacity or neonatal unit is causing delay in commencement of IOL, an individualised risk assessment must be made by the most senior obstetrician available with clear documentation in the case notes.

MLC Post Date women (see home IOL SOP Appendix 2)

- If not already prescribed, **the notes and medication chart** will need to be presented to a Doctor for medication prescribing. The midwives on the ward area can proceed with the IOL – they do not need any medical clerking.

Women who are having an IOL for foetal or maternal conditions (OLC care)

- **These women should have their IOL medications including analgesia such as co-codamol prescribed when their IOL is booked**.

A clear plan must be documented in the notes. These women **do not routinely** need obstetric review when they are admitted to maternity ward, unless there is a change in their clinical situation since last obstetric review. If these women have not been written up for medication please take both the notes and medication for review by the Obstetrician on labour ward so that Propess/Prostin can be prescribed.

If medical clerking is required on admission, it must be clearly documented on the management plan within the case notes.

8 Assessment prior IOL

Maternal and foetal monitoring

Prior to commencing the induction of labour process a full antenatal examination must be performed and recorded on the MEOWS chart including:

- Blood pressure
- Pulse
- Temperature
- Respiration rate
- Urine
- Abdominal palpation including stability of the presenting part. For women where the presenting part is not fixed there should be a discussion about the increased risk of cord prolapse.
- CTG
- Discussion about foetal movements
- Review of medical notes to exclude low lying placenta.

8.1 Methods and procedure of IOL

Women should be informed of the different methods of IOL. For most women pharmacological methods are preferred but mechanical procedures should be considered especially where pharmacological methods are unsuitable (such as previous CS or hyperstimulation) or if the woman chooses to have mechanical methods.

- **Vaginal prostaglandins** are the preferred method of induction of labour, unless there are specific clinical reasons for not using it (in particular the risk of uterine hyperstimulation). These include Propess and Prostin. Manufacture guidance should be followed.

- **Mechanical procedures** (e.g. Foley catheter or Dilapan) are used when inducing women who have had a previous caesarean section or in women where prostaglandins have failed and who are keen to continue trying to be induced.

- **Amniotomy**, is the artificial rupture of the membranes. This can be followed by syntocinon infusion to initiate contractions. Women should be informed that if they choose to not have syntocinon following ARM then labour may be longer and the risk of neonatal infection increases with duration of ruptured membranes.

- **Mifepristone** followed by prostaglandins will only be used in IUD cases (see specific guidance)

8.2 The Modified Bishop Score

SCORE	0	1	2
Cervical dilatation	<1	1-2	3-4
Length of cervix	>2	1-2	<1
Station	-3	-2	-1
Consistency	Firm	Medium	Soft
Position	Posterior	Central	Anterior

8.3 Membrane sweeping

Women should be informed that membrane sweeps are known to reduce the number of women requiring induction of labour for prolonged pregnancy. Where accepted a series of membranessweeps should be offered to all women without SROM 24 – **aiming for 3 membrane sweeps prior to a planned induction of labour (1 every 48 hours).** The Bishop Score of the cervix should be documented.
All women with uncomplicated pregnancies can be offered membranes sweeps when seeing their midwife from 39 weeks gestation.

Women booked for Obstetric Led Care, who are aiming for vaginal birth and need early delivery, can be offered membrane sweep before 39 weeks - decision to be made by the obstetrician and clearly documented in maternity hand held record.

9 Assessment during Induction of Labour

- Prior to insertion of vaginal prostaglandins, maternal and fetal wellbeing should be confirmed. CTG should be undertaken for at least 30 minutes and should be normal. CTG should have been undertaken within 30 minutes of insertion of vaginal prostaglandins

- During vaginal examination the midwife should be assessing for the absence of umbilical cord presentation, and should avoid dislodging the presenting part which increases the risk of cord prolapse.

- Following the administration of vaginal prostaglandins, a full antenatal assessment should be undertaken including CTG when contracting and requiring additional pain relief like co-codamol, codeine or pethidine, ruptured membranes or PV bleeding

- In presence of fetal risk factors like IUGR, abnormal doppler, oligohydramnios etc. 8 hourly CTGs should be performed even in absence of uterine contractions

- Where the presenting part is not fixed in the pelvis or well applied to the cervix there should be an increased awareness of the possibility of cord prolapse should the membranes rupture. A CTG should be performed following SROM in these women. Once the presenting part stabilises and cord prolapse has been excluded then following a normal CTG then IA may be appropriate if there are no other risks for the fetus.

- Medical review should be requested immediately if there are abnormal features on the CTG, and propess removed (if relevant). Consideration should be given to administering a tocolytic.

- An assessment of maternal and foetal wellbeing should be completed at least every 4 hours during the IOL process and documented in the notes. In most women this will include general maternal wellbeing, maternal pulse, presence of uterine activity, vaginal loss and fetal movements and heart rate. Women with risk factors like PIH/PET, SROM or feeling unwell will require additional maternal and fetal assessment. More frequent assessment may be required following the onset of uterine activity

- If a woman is sleeping, indicating no uterine activity, assessment may be delayed until she wakes

- An assessment of both maternal and foetal wellbeing (including a CTG) must be performed before the administration of analgesia, although care should be taken to minimise delays in administering analgesia once requested.

Prior to vaginal assessment, both preparations of vaginal prostaglandins should be taken to the bedside. The appropriate agent following assessment of Bishop score should be administered at this time and the unused medication returned to the appropriate storage.

10 Induction with Prostaglandins

Vaginal prostaglandins are the preferred method of induction of labour, unless there are specific clinical reasons for not using it.

- One Propess over 24 hours followed by 2 further Prostin 6 hours apart (gel 2mg)

OR

- 4 x Prostin

10.1 Propess

Propess is 10mg of PGE2 in a hydrogel polymer pessary within a knitted polyester retrieval system. It is available mainly for use with an unfavourable cervix (Bishop Score

≤4). Propess will release 0.3mg/hr of active agent over 24 hours. Half-life is 1-3 minutes. Propess is stored in the freezer.

Propess is inserted high into the posterior vaginal fornix. Women should be advised to lie down for 30 minutes following insertion. The retrieval tape should be placed inside the vagina to reduce the risk of the Propess becoming dislodged or accidentally removed.

Propess can be removed by gentle traction on the retrieval tape. It should be removed either:

- 24 completed hours in situ
- Following spontaneous rupture of membranes
- At onset of labour, confirmed by vaginal examination
- Prior to ARM or Oxytocin infusion (Oxytocin can be commenced 30 minutes after removal)
- If evidence of uterine hyperstimulation (>5 contractions in 10 minutes with abnormal CTG), remove Propess. In IUGR/SFD, remove propess in presence of tachysystole.

If Propess is removed early or falls out

If the Propess falls out a second Propess can be inserted (unless only 1-2 hours left). Propess will only deliver a maximum dose of 0.3mg /per hour therefore if the Propess is removed after 24 completed hours only 7.2mg will have been absorbed regardless of the number of pessaries used.

Therefore, the 24 hours is up when the Propess has been in situ for 24hours, not 24hours from first insertion.

10.2 Prostin Gel

Prostin gel contains 2mg PGE2. They are for use where the Bishop Score is between 5 –7, or following Propess.

- Prostin is stored in the fridge and should be removed immediately prior to use.
- Prostin is inserted high into the posterior vaginal fornix. Women should be advised to lie down for 30 minutes following insertion.
- Prostin can be repeated 6 hours after first.
- A vaginal examination should be performed 6 hours after the second dose to assess Bishop Score and suitability for ARM. If the cervix at this stage is unfavourable for ARM the cycle can be repeated the next day. If the cervix remains unfavourable then the opinion of a senior obstetrician should be sought

11 Induction of Labour in Previous Caesarean Section

Risk of uterine rupture is 2 – 3 times increased with use of prostaglandin and oxytocin when compared with spontaneous labour (where risk of scar rupture is 1 in 200) [15.5]

Foleys catheters do not carry the risk of hyperstimulation and are therefore the safest method for induction of labour. Propess can however also be used after adequate counselling about the risk of using prostaglandins in women with a previous CS scar.

11.1 Insertion of Foleys catheter

Instruments required:

- Tray with a sterile pack, a Cusco's speculum and aqueous gel.
- Foleys catheter (>14 Fr in size- this can hold 30 ml of saline)
- Bowl with 40 ml of saline/ water.
- 50 ml syringe.
- Mepore or other similar tape.
- 2 sponge holders

Procedure

- Admit to ward 19 on the induction date
- Obtain verbal consent for the procedure
- Perform a CTG for 30 min.
- Catheter can be inserted without speculum by feeding it manually into the cervix. If not possible the woman can be placed in a lithotomy position - consider entonox
- A registrar / consultant / midwife (if trained) can perform this procedure.
- Use the Cusco's speculum to visualise the cervix and hold the Foleys catheter with a sponge forceps and insert into the cervix beyond the internal os.
- Inflate the catheter balloon with 30mls of normal saline.
- Pull gently on the catheter to put it under tension. This allows you to check that it remains in place.
- Tape the Foleys to mother's thigh.

Post-insertion

- 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 and the balloon is in situ).

- If the balloon is expelled then transfer to LW for ARM. If the balloon is expelled, it is generally due to the cervix dilated to greater than 3-4 cm and indicates that ARM is possible. The decision for timing of ARM should be based on clinical safety grounds-maternal / foetal and Labour ward status.

12 Timing of ARM

Once a patient has reached the point where ARM is possible the labour ward coordinator should be informed. Transfer should be organised to labour ward for ARM within the next 24 hours. If transfer not within the agreed time frame please complete DATIX.

Performing an ARM

Perform an antenatal check and commence CTG monitoring. At vaginal examination exclude cord presentation and confirm an engaged, cephalic presentation. Continue CTG monitoring for a further 30 minutes or until fetal wellbeing is confirmed.

Fetal Monitoring during labour for women and babies without additional risk factors.

If an IOL has been performed where there is no increased risk of fetal hypoxia during labour (e.g. pelvic girdle pain, maternal request, large for dates), IA is an appropriate method of fetal monitoring. This applies if labour commences following the use of Prostagladins alone and/or ARM. An initial CTG should be undertaken for 30 minutes in active labour and if normal, IA will be appropriate. This facilitates freedom of movement and normal, physiological labour. (NICE 2021)
IA must be performed according to the Health board Guidelines'

Starting Oxytocin

Labour may start spontaneously following ARM, without the need for an oxytocin infusion. The woman can be encouraged to mobilise. A plan for use of oxytocin must be documented in the notes. Oxytocin may be commenced immediately following ARM, or in 2 hours following ARM. This should take into consideration the clinical picture, including parity and uterine activity post ARM and indication for induction. In high parity or following previous CS it may be appropriate to allow 4 hours following ARM before starting oxytocin. Continuous Fetal monitoring with a CTG must be undertaken following commencement of oxytocin. Women should be included in decisions of when to start oxytocin and be aware that delaying oxytocin may result in a longer labour and increase the risk of neonatal infection.

13 Induction of labour with Oxytocin

See Appendix 1 for Oxytocin regime in Labour

13.1 Suspected Uterine Rupture

Induction of labour increases the risk of uterine rupture especially in the presence of previous full thickness uterine surgery such as CS, myomectomy or perforation during removal of products of conception. Uterine rupture may also occur with inappropriate use of oxytocin especially in multiparous women. Indications of uterine rupture include

Abnormal fetal heart rate pattern such as prolonged deceleration
Onset of continuous abdominal pain
Vaginal bleeding
Loss of uterine contractions
Loss of station of the presenting part on vaginal examination
Maternal tachycardia and hypotension

Where uterine rupture is suspected then emergency delivery by category 1 CS should occur.

14 Failed IOL

If rupture of membranes and augmentation with oxytocin is not possible a discussion with the woman should take place for her preferences of continuing with the induction of labour process and what other options are available. These include

A rest period of at least 24 hours and then reassess
Expectant management
Further attempt at IOL
Caesarean Section

This discussion should be documented in the notes along with any recommendations made and the rationale for those recommendtions. Where women choose to go home CTG monitoring is not required on a daily basis.

Currently Propess® is not licensed to be repeated as a second dose. However, in carefully selected women, the dose may be repeated after review of the case by a senior obstetrician.

15 Review

This policy will be reviewed in 3 years. Earlier review may be required in response to exceptional circumstances, organisational change or relevant changes in legislation of guidance.

16 References

A randomized trial of preinduction cervical ripening: dinoprostone vaginal insert versus double-balloon catheter, Cromi A, Ghezzi F, Uccella S, et al. Am J Obstet Gynecol 2012;207:125.e1-7.

American College of Obstetricians and Gynecologists. ACOG Practice Bulletin no. 115: Vaginal birth after previous cesarean de- livery. *Obstet Gynecol*. 2010;116:450-463.

Balloon catheter for induction of labor in women with one previous caesarean and an unfavorable cervix. *Acta Obstet Gynecol Scand*. 2019;00:1-9

Birth after Previous Caesarean Birth, RCOG, Green-top Guideline No. 45, 2015.

Foley catheter versus vaginal prostaglandin E2 gel for induction of labor at term (PROBAAT trial): an open- label, randomized controlled trial, Jozwiak M, Oude Rengerink K, Benthem M, et al. Lancet 2012; 378:2095-103.

Foley catheter balloon vs locally applied prostaglandins for cervical ripening and labor induction: a systematic review and meta-analysis , Zvi Vaknin. Am J Obstet Gynecol Nov, 2010

Group B Streptococcal Disease, Early-onset (RCOG Green-top Guideline No. 36)

Induction of labour: Clinical guidelines No 70. National Institute for Clinical Excellence (NICE); 2008.

Induction of labour at or beyond term. Geneva: World Health Organization (WHO); 2011.

Induction of labour in older mothers, RCOG Scientific Impact paper No 34, February 2013

NIHR, Randomized Trial of Labor Induction in Women 35 Years of Age or Older, New England Journal of Medicine , 2016

PITCHES Trial. The Lancet, Vol 394, Issue 10201, p849-860, Sep 07, 2019

Uterine Rupture by Intended Mode of Delivery in the UK: A National Case-Control Study, UKOSS 2012

Inducing Labour: Clinical Guideline NG207. National Institute for Clinical Excellence (NICE); 2021.

Foley Catheter compared with controlled release dinoprostone vaginal insert for labour induction after one previous caesarean delivery: A randomised trial. *Sulaiman, S., et al.* International Journal of Gynaecology and Obstetrics. 2023. 160(3):814-822

Appendices

Appendix 1: Oxytocin infusion regime

Mix 10 IU of Oxytocin in 500mls of normal saline, hence 3ml/hr = 1 milliunit oxytocin per minute.

All entries should be made in milliunits/minute (mu/min)

PRIMIGRAVIDA and MULTIGRAVIDA		
Time after starting (minutes)	Dose delivery ml/hr	Dose delivery mu/min
0	3ml/hour	1mu/min
30	6 ml/hour	2 mu/min
60	12 ml/hour	4 mu/min
90	24 ml/hour	8 mu/min
120	36 ml/hour	12 mu/min
150	48 ml/hour	16 mu/min
180	60 ml/hour	20 mu/min
210	72 ml/hour	24mu/min
240	84ml/hour	28mu/min
270	96ml/hour	32mu/min

Trials have used up to 32MU per minute although the maximum licensed dose is 20 milliunits per minute. A written plan must be made in the maternity records by a senior obstetrician if more than 20mu/min is to be given.

Augmentation is uncommon in a multiparous woman and should only be advised after review by an experienced obstetrician.

Women whose labour has been induced/augmented by oxytocin should have continuous electronic foetal monitoring.

If Fetal Heart Rate (FHR) trace is normal, oxytocin can be continued until the woman is experiencing 4 or 5 contractions per 10 minutes. Oxytocin should be reduced if contractions occur more frequently than 5 contractions in 10 minutes.

If FHR trace is classified as suspicious, this should be reviewed by an obstetrician and the oxytocin dose should only continue to increase to achieve 4 or 5 contractions every 10 minutes.

If the FHR trace is classified as pathological, oxytocin should be stopped and a full assessment of the foetal condition undertaken by an experienced obstetrician

(Registrar/Consultant) before oxytocin is recommenced. Consider tocolysis. Oxytocin is recommenced only after the CTG has returned to normal. Great clinical judgement is required in this situation and do not hesitate to discuss with consultant obstetrician.

Appendix 2:

Standard Operating Procedure Outpatient Induction of Labour

Indications for practice: To provide a clear and safe process for facilitation of outpatient induction of labour.

Background

Induction of labour is a relatively common procedure with approximately 20-25% of births in the UK being induced. There are many obstetric indicators for induction of labour; however, one of the most common indications is post-dates pregnancies. In Swansea Bay University Health Board (SBUHB) women are offered induction of labour at Term + 7 days onwards. Many women in this situation have been midwifery led care up to this point and are at low risk of pregnancy and intrapartum complications. Outpatient induction of labour for low risk women experiencing a post-dates pregnancy has a number of benefits:

- Increase in maternal satisfaction
- Reduction in length of antenatal stay in hospital
- Reduced bed occupancy in the maternity unit
- The potential for a reduction in financial costs to the service

Studies of outpatient induction of labour are still limited; however, many London hospitals have implemented the procedure. A small number of audits conducted by London hospitals have concluded that the practice is safe and effective when compared to induction of labour in an inpatient setting with no significant difference in fetal or maternal outcomes. One London audit shows a small decrease in emergency caesarean section rates for the outpatient group and concluded that the only adverse outcome in this group was a higher rate of hyperstimulation (London Clinical Network).

Information for Women

Information provided to women and their families should be clear and concise, delivered verbally at the point of decision making and supported by the *Swansea Bay Outpatient Induction of Labour Leaflet* (Appendix 2a). A discussion should be documented in the records and include:

- The reasons for induction being offered
- The options in relation to when, where and how induction could be carried out
- The advantages and disadvantages of outpatient induction and in patient induction discussed.
- The process of induction of labour
- Arrangements for accessing support and monitoring of maternal and fetal well being
- Alternative options should the woman chose not to have induction of labour
- What options are available to the woman if Induction of labour is not successful

Criteria for Out Patient Induction of Labour

- Meets NICE (2014) criteria for midwifery led care. Therefore healthy woman with an uncomplicated pregnancy requiring induction for prevention of prolonged pregnancy (between 41+0 and 41+5 days).
- Uncomplicated previous obstetric history
- Para 3 or less and has no history of precipitate labour.
- Woman has transport available and lives within 30 minutes of the maternity unit
- Woman has access to a telephone
- Woman has no communication issues (language barrier or disability)
- Bishops score is less than 7 on vaginal examination
- Reassuring pre prostaglandin fetal heart rate monitoring
- Maternal request for IOL (social reasons, after 39 weeks)
- Women under OLC where there is clear documentation that outpatient induction may be suitable eg raised BMI, LGA
- Woman consents to outpatient induction

Recommended Pharmacological Method for Outpatient Induction of Labour

One cycle of vaginal PGE2 controlled release pessary (Propess): One dose over 24 hours in line with *the Swansea Bay University Health Board Induction of Labour Guideline*.

Process for Outpatient Induction of Labour

- IOL booked as outpatient on to ward 19, following discussion and verbal consent. Swansea Bay University Health Board Outpatient Induction of Labour leaflet should be given by the community midwife.
- On day of IOL confirm gestation, indication and plan with the woman, arrange prescription of Propess 10mg.
- A full antenatal assessment should be carried out, including 30 minute electronic fetal heart monitoring and vaginal examination to assess the cervix.
- If Bishops score is less than 7, Propess 10mg should be administered per vagina.
- Clear information should be given to the woman, verbally and in writing in the form of the OP IOL leaflet, about what to expect following the procedure, what time to return for assessment, the 24 hour contact telephone number for the obstetric unit and circumstances which warrant contacting the obstetric unit prior to the planned assessment.
- Uterine activity must be absent prior to discharge.
- The woman should be given a time to return to ward 19, 24 hours following the insertion of the Propess pessary, at which point the pessary will be removed and a plan will be made for continuation of the induction of labour as an inpatient. The woman's details should be added to the induction of labour diary on ward 19 for the following day with the time she is expected.
- The midwife must be clear that the woman has fully understood and document to that effect by completing the relevant proforma (see appendix 2b), check contact details are correct.

On discharge the woman must be aware of:

- What contractions will feel like and how to monitor them
- How to differentiate between contractions and abdominal pain
- Vaginal bleeding and how it differs from a show
- Signs of Spontaneous Rupture of Membranes
- Signs of infection
- The need to continue monitoring fetal movements
- How to recognise if the Propess has fallen out
- What the plan is for communication and when to contact the hospital.

The woman should be advised to contact Ward 19 when/if:

- Contractions are regular in length and strength.
- Contractions are occurring more than 4 in every 10 minute period.
- There is abdominal pain other than contractions.
- There is any vaginal bleeding or Spontaneous Rupture of Membranes
- The Propess falls out.
- Fetal movements are reduced.

Advice to remove and or time of removal must be documented. Propess **must** be removed immediately in the following instances:

- When labour is established (contractions ≥3:10 and cervix dilated ≥ 3cm)
- Spontaneous rupture of membranes
- PV bleeding
- Uterine tachysystole (> 4 contractions in 10 minutes) or hypertonic uterine contractions (contractions lasting > 2 minutes).
- Evidence of fetal compromise.
- Evidence of maternal adverse dinoprostone effects. Propess can occasionally produce some side effects which are usually mild and include nausea, vomiting, dizziness or rarely palpitations and fever, where symptoms cause discomfort propess should be removed.

Fetal monitoring if admitted in active labour after outpatient induction of labour after one Propess.

If the woman would otherwise have met the criteria for Midwifery led care, she may choose to labour and deliver in the Bay Birth Centre (Alongside Midwifery led Unit in Singleton Hospital) with intermittent auscultation, providing an initial CTG of at least 30 minutes in labour is normal. The CTG should be performed on ward 19.

Midwives responsibility in caring for women undergoing Outpatient Induction of Labour.

All women undergoing outpatient induction of labour should be contacted in the evening of the IOL (where IOL has occurred prior to 18.00hrs) or in the morning of the following day (if IOL occurred after 18.00hrs) However, providing there are no concerns the woman should not be disturbed between 10pm and 8am. The midwife must have a low threshold for advising women to return to the hospital. If there is vaginal bleeding, contractions are occurring more than 4 in every 10 or abdominal pain other than contractions, the woman

should be asked to remove the Propess and bring it to hospital. If the Propess falls out, the woman should be advised to keep it and bring it into hospital with her.
The woman must be invited in for assessment in the event of her second telephone contact, (not including routine midwife phone checks).

Appendix 2a: Patient information leaflet.

Outpatient Induction of Labour
Patient Information Leaflet

Induction of labour is the process of starting labour artificially. We can offer induction of labour either in hospital or for part of the process as an outpatient. Outpatient induction of labour will be offered to you if you are healthy, have had an uncomplicated pregnancy and are over your due date by 7 days.

What are the Benefits of Outpatient Induction of Labour?

- A reduction in the time you spend in hospital before you give birth
- Makes the process of Induction of labour feel more normal
- Allows you to spend more time in your home environment with your family

You will be offered Outpatient Induction of Labour if:

- You have an uncomplicated pregnancy requiring induction for prevention of prolonged pregnancy
- You have an uncomplicated previous birthing history
- You have had no more than three previous births
- You have transport available and live within 30 minutes of the birth unit
- You have access to a telephone
- You have had a full examination and are suitable for induction
- You have had a reassuring heart monitoring of your baby

What will happen on the day?

- You will be asked to attend ward 19 in Singleton hospital
- A full antenatal assessment will be carried out, including a 30 minute electronic heart monitoring of your baby and an internal examination to assess your cervix
- If suitable the induction medicine, called Propess, will be inserted into the vagina. Propess is like a small flat tampon containing prostaglandin, which is used to encourage the cervix to soften ready for labour to start. Propess remains inside for up to 24 hours and has a string which is used during removal. The Propess string will lie inside the vagina and it is very important that you take care when wiping yourself after going to the toilet or when washing, so that you do not pull or drag on it
- Once the propess has been inserted you can then return home.
- A midwife will contact you at home to provide a verbal assessment with an opportunity for any questions. The timing of this call will depend on what time your process was inserted, if it was before 1800, you will be called the same evening ,If it was after 1800 you will be called the following morning. If you have any concerns outside of this we encourage you to contact ward 19 where a midwife will be available to answer any queries or concerns.

What happens when I go home?

The Propess you have been given acts to prepare the cervix. This means that the cervix, softens, shortens and begins to open. You will commonly feel a period type pain while this is happening and you may be aware of your womb tightening and relaxing intermittently. It is ok to stay at home if you have tightening. You can take a warm bath and keep mobile, which will help you to relax. Where you experience contractions every 5 minutes or less, lasting at least 45 seconds please contact ward 19 to discuss with a midwife. If you return to the ward because you think you are in labour the midwife will assess you. This will include a repeat 20 minute continuous monitoring of your baby's heartbeat. Where this is all normal and you are in active labour you will be offered the opportunity to birth in The Bay Birth Unit (Alongside Midwifery Led Unit).

Please contact the hospital immediately if you experience any of the following:

- You think your waters have broken
- You have regular and painful contractions and think you may be in labour
- You have constant pain
- You are worried and don't feel that you are coping at home
- You have any fresh bleeding vaginally
- Your baby's movements are reduced
- The Propess falls out or drops low into the vagina

Are there any side effects?

Propess can occasionally produce some side effects which are usually mild and include nausea, vomiting, dizziness or rarely palpitations and fever. If any of these occur to a distressing level you should telephone the hospital. There is a very rare chance that you may be very sensitive to Propess and start contracting very frequently and strongly:

- More than 4 contractions in 10 minutes
- A run of contractions each lasting 2 minutes
- Severe abdominal pain

If this happens you must telephone the hospital and attend the unit immediately. If possible you should also remove the Propess by pulling on the string, as you would when removing a tampon. Please bring the Propess to the hospital for your midwife to check.

Singleton Hospital
Ward 19-01792 285405 (24 hour)
24 hour emergency contact – 01792 530862

Appendix 2b: Out Patient induction of labour: summary of care.

Out Patient Induction of Labour: Summary of Care.

PATIENTS DETAILS ADDRESSOGRAPH	DATE OF ADMISSION:..... TIME OF ADMISSION:..... PATIENTS PHONE NUMBER :.....

INCLUSION CRITERIA

- P0, P1, P2, P3
- More than 39+0
- Low risk in current pregnancy – (no medical or obstetric factors) OR clear documentation by Consultant obstetrician
- Singleton pregnancy
- Cephalic presentation 3/5TH palpable or less
- 18 – 39 years old (Inclusive)
- BMI < 35 at booking
- No h/o raised BP in AN period
- No expected neonatal problems
- Good understanding of the English language
- 24 hour access to a telephone
- Transport to hospital (not via an ambulance)
- Approximate travelling distance from hospital of 30 minutes or less
- Will not be alone during the IOL process

PRIOR TO PROPESS

Parity:

Gestation:

Are all the inclusion criteria met?

YES ☐ NO ☐

If no – inpatient induction +/- registrar review

VAGINAL EXAMINATION

Position of cervix.....

Cervical length.....

Cervical dilatation .....

Station.....

Propess 10mg inserted: date.....

time.....

Safeguarding files checked?

Yes ☐ No ☐

Advice leaflet in notes and discussed with woman detailing date and time to return if not in labour. Yes ☐ No ☐

Date of discharge..... Print name.....

Time of discharge..... Signature.....

- The Midwife caring for the outpaitent inductions must telephone the woman either on the evening of her IOL (where propess is inserted before 18.00hrs) or on the morning of the following day (Where Propess is inserted after 18.00hrs), providing there are no concerns the woman should not be disturbed between 10pm and 8am.
- The midwife must have a low threshold for advising women to return to the hospital if there is vaginal bleeding, contractions are occurring more than 4 in every 10 or lasting more than 2 minutes, or if abdominal pain other than contractions is reported. The woman should be asked to remove the Propess and bring it to hospital. If the Propess falls out, the woman should be advised to keep it and bring it into hospital with her.
- The woman must be invited in for assessment in the event of her second telephone contact, (not including routine midwife telephone assessment).
- Where a woman is admitted in active labour and on assessment all findings are in the parameters of normal (including an admission CTG for at least 20 minutes). She can be offered the opportunity to birth in The Bay Birth Centre with intermittent auscultation under midwifery led care.

SUMMARY OF VISITS OR CONTACT

DATE AND TIME	Planned routine telephone assessment.	ADVICE/PLAN OF CARE	SIGN/PRINT NAME

DATE AND TIME	REASON FOR CONTACT	ADVICE/PLAN OF CARE	AREA WOMAN ATTENDING	SIGN/PRINT NAME

OUTCOME

Prostin required Yes ☐ No ☐ date and time:

ARM required Yes ☐ No ☐ date and time:

Syntocinon required Yes ☐ No ☐ date and time :

Date, time and place of delivery.....

Mode of delivery .....

Ensure form is complete (tick when complete) ☐ signature.....

This proforma must be COMPLETED and kept in the Outpatient induction of labour folder. When the woman has birthed this should be placed in her maternity notes and a copy kept for audit purposes.

Maternity Services

(i) Checklist for Clinical Guidelines being Submitted for Approval

Title of Guideline:	Induction of Labour Guideline
Name(s) of Author:	Antenatal Forum: Lead Author [redacted]
Chair of Group or Committee approving submission:	Clinical Guideline Group
Brief outline giving reasons for document being submitted for ratification	Updated version of previous guideline
Details of persons included in consultation process:	Labour ward Forum, Antenatal Forum
Name of Pharmacist (mandatory if drugs involved):	
Issue / Version No:	6.1
Please list any policies/guidelines this document will supersede:	Induction of Labour – updated May 2020
Date approved by Group:	12th August 2024
Next Review / Guideline Expiry:	August 2027
Please indicate key words you wish to be linked to document	Induction, IOL, propess, prostin, hyperstimulation, monitoring, catheter
File Name: Used to locate where file is stores on hard drive	ABM Group (Z:)\Maternity\policies and guidelines\Obs\2020 onwards