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Induction of Labour Guideline Including Arrest of Labour

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Guidelines Definition

Clinical guidelines are systemically developed statements that assist clinicians and patients in making decisions about appropriate treatments for specific conditions.

They allow deviation from a prescribed pathway according to the individual circumstances and where reasons can be clearly demonstrated and documented.

Equality Impact Assessment Statement

This guideline has been subject to a full equality assessment and no impact has been identified.

Related Guidelines

- Fetal Heart Monitoring and Interpretation
- Diabetes
- Pre term rupture of membranes
- Spontaneous Rupture of membranes
- Vaginal Birth After Caesarean Section (VBAC)
- Altered Fetal movements
- Breech Presentation
- Hypertensive Disorders of Pregnancy
- Obstetric Cholestasis
- APH
- Multiple Pregnancy
- Stillbirth

Contents

1. Definition

Induction of Labour (IOL) is defined as an intervention designed to artificially initiate uterine contractions leading to progressive effacement and dilatation of the cervix, and birth of the baby. This may include women with membranes still intact or women with ruptured membranes who are not in labour.

These guidelines have been developed for Cwm Taf Morgannwg University Health Board, incorporating previous guidance from Cwm Taf University Health Board and Abertawe Bro Morgannwg University Health Board. These guidelines replace any previous health board versions.

2. Rationale

Induction of labour is indicated when it is agreed that there is a higher probability of a healthier outcome for mother or fetus to induce birth than if the pregnancy were to continue. Induction of labour should only be considered when vaginal birth is felt to be the most appropriate route.

3. Indications for Induction of Labour

- Post-dates (41-42 weeks following individual risk assessment by Obstetrician)
- If low risk IOL 40^{+12} weeks
- Pregnancy induced hypertension/ Pre-eclampsia
- Diabetes
- Obstetric cholestasis
- Multiple pregnancies
- Evidence of fetal compromise (Intra Uterine Growth Restriction (IUGR) / Intrauterine Death (IUD)
- Suspicions of fetal compromise (reduced fetal movement)
- Antepartum Haemorrhage (not related to placenta praevia)
- Maternal age >40
- Maternal request

4. Contraindications for Induction of Labour

- Major degrees of placenta praevia.
- Malpresentation (breech/oblique/transverse).
- Previous uterine surgery (e.g. classical Caesarean Section, myomectomy). Only a consultant may make the decision to use prostaglandins.
- Recurrent Caesarean Section performed in previous pregnancy.
- Fetal Heart rate abnormalities.
- Known hypersensitivity to prostaglandins.

5. Induction of Labour Booking Process

5.1 Information and decision-making

When IOL is being considered women should make an informed choice, based on evidence based research. They should be informed that most women will go into labour spontaneously by 42 weeks. At the 36 week antenatal visit, all women should be offered information about the risks associated with pregnancies that last longer than 42 weeks, and their options.
The following points should be explained to women being offered induction of labour:

- The reasons for induction being offered should be documented
- When, where and how induction could be carried out
- Discuss possible length of IOL
- The arrangements for support and pain relief
- The alternative options if the woman chooses not to have induction of labour should be documented
- The likelihood of failed IOL and the woman's' options in this case should be documented in the records

An IOL Patient Information leaflet should be given, and this documented in the handheld notes.

5.2 Consent for Induction of Labour

IOL should only follow fully informed consent from the woman, which should include the reasons for IOL, the choice of method and the potential risks and consequences for accepting, or declining IOL.

The woman should have been given the 'Induction of Labour, patient information leaflet available on SharePoint. This must be given out at the time the IOL is booked and discussion and risk should be documented in the notes.

5.3 Prioritising the Induction Workload

- The elective workload should be reviewed on a daily basis by the Consultant and Labour Ward co-ordinator. The order of inductions should be based on clinical needs and/or priority, and the order these have been booked should be confirmed at Labour Ward morning handover meeting. An induction commenced the previous day needs to be considered as a priority. If the prioritisation list requires reviewing and re-prioritisation this should be undertaken by a Senior Obstetrician and the Labour Ward Co-ordinator and documented on the induction list with a date, time and signature. Any re-prioritisation should include an assessment of the risks of delay.
- Indication for induction of labour should be documented in the woman's notes and discussed with the woman by the Obstetrician.

5.4 Before booking any Inductions with Labour Ward

Confirm the dates to avoid iatrogenic prematurity
Make sure that the woman and partner have understood the indications for, as well as the proposed method(s) of induction.
Inform the woman and the partner that induction of labour may be delayed based on the intensity of workload in the unit. If the induction is delayed appropriate monitoring of mother and fetus will be planned to reduce the risks.

Do not book more than a total of 4 in PCH site or 3 in POW routine inductions per day except in urgent cases.

Avoid induction of labour for patients with complex medical or obstetric history over the weekends and bank holidays except if clinically indicated

5.5 Induction of labour in specific circumstances

5.5.1 Prevention of prolonged pregnancy

Women with uncomplicated pregnancies should be given every opportunity to go into spontaneous labour.
Women with uncomplicated pregnancies should usually be offered induction of labour at 40^{+12} weeks to avoid the risks of prolonged

pregnancy. The exact timing should take into account the woman's preferences and local circumstances.

If a woman chooses not to have induction of labour, her decision should be respected. Any women declining induction of labour should be referred to the Consultant Midwife for support.

From 42 weeks, women who decline induction of labour should be offered increased antenatal monitoring consisting of at least twice-weekly cardiotocography (CTG) and ultrasound estimation of maximum amniotic pool depth.

5.5.2 Preterm pre labour rupture of membranes (PPROM)

If a woman has PPROM, induction of labour should not be carried out before 37 weeks unless there are additional obstetric indications (for example, infection or fetal compromise).

N.B. In cases of Group B Strep positive mother with spontaneous rupture of membranes (SROM) >34+ Weeks, immediate IOL with oxytocin (Syntocinon®) should occur in this situation.

5.5.3 Prelabour rupture of membranes at term

Women with prelabour rupture of membranes at term (at or over 37 weeks) should be offered a choice of induction of labour with vaginal prostaglandins (PGE) or expectant management.

Induction of labour is appropriate approximately 24 hours after prelabour rupture of the membranes at term.

Please refer to CTMUHB Spontaneous Rupture of Membranes at term guideline.

5.5.4 Previous caesarean section

If delivery is indicated, women who have had a previous caesarean section may be offered induction of labour with vaginal PGE_2, mechanical induction, caesarean section or expectant management on an individual basis, taking into account the woman's circumstances and wishes.

Please refer to CTMUHB Vaginal Birth after Caesarean Section Guideline for further guidance.

5.5.5 Maternal request

Induction of labour should not routinely be offered on maternal request alone. However, under exceptional circumstances induction may be considered at or after 40 weeks. It may be appropriate to offer referral to the Consultant Midwife for support.

5.5.6 Intrauterine fetal death

In the event of an intrauterine fetal death, healthcare professionals should offer support to help women and their partners and/or family cope with the emotional and physical consequences of the death. This should include offering information about specialist support.

In the event of an intrauterine fetal death, if the woman appears to be physically well, her membranes are intact and there is **no** evidence of infection, bleeding, and disseminated intravascular coagulation (DIC) or Pre-eclampsia PET she should be offered a choice of immediate induction of labour or expectant management.

In the event of an intrauterine fetal death, if there is evidence of ruptured membranes, infection or bleeding, immediate induction of labour is the preferred management option.

If a woman who has had an intrauterine fetal death chooses to proceed with induction of labour, oral mifepristone, followed by vaginal PGE_2 or vaginal misoprostol, should be offered.

For women who have intrauterine fetal death and who have had a previous caesarean section, the risk of uterine rupture is increased. The dose of vaginal prostaglandin should be reduced accordingly, particularly in the third trimester.

Please also refer to CTMUHB Fetal Loss and Stillbirth Guideline and Stillbirth Pathway.

6. Process of Induction of Labour

When a woman is admitted for IOL, the IOL Care Guideline should be commenced. A plan of care, including indication, method of induction and frequency of electronic fetal monitoring, should be clearly documented in the woman's records.

Induction agents should be prescribed prior to commencing any procedure, and should be done at the time of decision. Verbal orders should **never** be accepted. The Obstetrician must review all high risk women prior to commencing IOL.

Please see Appendix A for IOL flow chart and Appendix B for full Induction of Labour procedures.

For IOL in women with a uterine scar, please refer to CTMUHB Vaginal Birth after Caesarean (VBAC) guideline.

6.1 Admission

Induction will usually be carried out on antenatal ward with the exception of maternal and fetal compromise where induction must be planned to take place on Labour ward due to the requirement for continuous fetal monitoring. All high risk IOL must be reviewed by the Obstetric team prior to commencing IOL.

On arrival to the antenatal ward the admitting midwife will check the following and document in the woman's notes.

- Indication for induction.
- EDD.
- Vital signs and urinalysis.
- History of fetal movements.
- Allergy Status.
- Abdominal palpation. If there is any malpresentation or if fetal head is not engaged the Obstetrician ST3, ST4, ST5 (Registrar) should be informed. Presentation scan should be performed to confirm presentation before the start of process
- Ensure that the appropriate PROPESS® (dinoprostone) 10mg/alternative method of induction is prescribed by the Obstetrician booking the induction. Analgesia should also be prescribed to be used if required.
- A 30 minute CTG is performed.
- PROPESS® can be used straight from the freezer or up to 20 mins following removal.

If there are any concerns the midwife will discuss with a Senior Obstetrician before the induction commences.

If no concerns the midwife will perform a vaginal examination. If the Bishop's score is less than 5 and the CTG is normal PROPESS® 10mg is inserted (see section 6.3 Induction of Labour Stage I).

6.2 Overview of Induction of Labour

6.2.1Membrane Sweeping

Prior to formal induction of labour, women should be offered a vaginal examination for membrane sweeping.

At the 40 and 41 week antenatal visits, nulliparous women should be offered a vaginal examination for membrane sweeping.

At the 41 week antenatal visit, parous women should be offered a vaginal examination for membrane sweeping.

Additional membrane sweeping may be offered if labour does not start spontaneously.

The woman may decline a membrane sweep if she wishes. Prior to the procedure the woman should be given the following information;

A membrane sweep is associated with:

- Reduced time between sweep and onset of labour.
- Reduced incidence of prolonged pregnancy.
- Reduced need for other methods of induction.
- Increased incidence of maternal vaginal bleeding and discomfort.

There is no evidence to suggest that membrane sweeps increase the risk of maternal or neonatal infection

6.2.3 Non-pharmacological methods

Women should be informed that the available evidence does **not** support the following methods for induction of labour:

- herbal supplements
- acupuncture
- homeopathy
- castor oil
- hot baths
- enemas
- sexual intercourse.

6.2.4 Surgical and Mechanical methods

Amniotomy, alone or with oxytocin, should not be used as a primary method of induction of labour unless there are specific clinical reasons for not using vaginal prostaglandin (PGE_2), in particular the risk of uterine hyperstimulation. However, if Bishop's score is favourable amniotomy to be performed if this can be done and acuity allows.

Mechanical methods of IOL should be discussed and led by the Consultant Obstetrician. Discuss all aspects of the care with clear definition of all responsibilities documented in the woman's records. This should include frequency of surveillance and CTG requirements.

6.3 Pharmacological Induction of Labour stage I

Vaginal prostaglandin (PGE_2) is the preferred method of induction of labour, unless there are specific clinical reasons for not using it (in particular the risk of uterine hyperstimulation).

6.3.1 Dinoprostone (PROPESS®) vaginal delivery system

PROPESS® is indicated for women with a Bishop's score <5. Only a single pessary is required for IOL. This prevents the need for repeated doses and vaginal examinations and can be removed once cervical ripening is complete. It is also easily removed in the event of hyperstimulation.

PROPESS® should be stored in a freezer in its original container to protect it from moisture. It can be used directly from the freezer and for up to 20 minutes afterwards.

Side Effects of PROPESS®
For full list of side effects see SPC or BNF On-Line. Side effects include:

- Nausea and vomiting.
- Diarrhoea.
- Hyperstimulation.
- Fetal distress.
- Disseminated intravascular coagulation (DIC) – rare.
- Vaginal/vulval soreness.

6.3.2 Administration of PROPESS®

- One vaginal PROPESS® controlled-release pessary over 24 hours. (If this falls out during the IOL and is not retained by the woman a clinical decision by the obstetrician should be made).
- PROPESS should be removed following 24 hours. After use it should be disposed of as clinical waste.

6.3.3 Following Administration of PROPESS®

The CTG should continue for 20 minutes of normal fetal heart rate pattern following administration of PROPESS®. The midwife should regularly review the CTG during this time.

After 1 hour, check maternal observations and note any adverse effects (nausea, vomiting, tachycardia, hypotension, fever, vaginal irritation, abdominal pain, vaginal bleeding).

If the woman is not high risk and has a normal CTG, the CTG can be discontinued after the 20 minute normal fetal heart rate pattern. The woman should be advised to inform the midwife is she has any of the following:

- Regular contractions requiring analgesia.
- Vaginal bleeding.
- Reduced fetal movements.
- PROPESS® falls out or drops lower in vagina.
- If the membranes rupture.
- Continuous abdominal pain.
- Feels unwell.

Following PROPESS® low risk women will have repeat CTG's every 6 hours and 4 hourly maternal observations. CTG must be repeated immediately if onset of regular contractions, SROM or if any concerns are raised by the women or the midwife responsible for care.

High risk women will have continuous CTG once regular contractions occur.

6.3.4 Removal of PROPESS®

The vaginal delivery system can be removed quickly and easily by gentle traction on the retrieval tape.

It is necessary to remove the vaginal delivery system to terminate drug administration when cervical ripening is judged to be complete or for any of the reasons listed below.

1. Onset of labour

For the purposes of induction of labour with PROPESS®, the onset of labour is defined as the presence of regular painful uterine contractions occurring every 3 minutes requiring more than simple analgesia (paracetamol) irrespective of any cervical change. There are two important points to note:

(i) Once regular, painful contractions have been established with PROPESS® they will not reduce in frequency or intensity as long as PROPESS® remains in situ because dinoprostone is still being administered. Because of this, once regular painful uterine activity is established with PROPESS® in situ, the vaginal delivery system should be removed irrespective of cervical state to avoid the risk of uterine hyperstimulation.

(ii) Patients, particularly multigravidae, may develop regular painful contractions without any apparent cervical change. Effacement and dilatation of the cervix may not occur until uterine activity is established. Because of this, once regular painful uterine activity is established with PROPESS® in situ, the vaginal delivery system should be removed irrespective of cervical state to avoid the risk of uterine hyper stimulation.

2. Spontaneous rupture of the membranes or amniotomy

PROPESS® should be removed if any of the following occur.

(i) Any suggestion of uterine hyperstimulation or hypertonic uterine contractions (tachysystole) should be referred for obstetric clinical assessment.

(ii) Evidence of fetal distress, abnormal antenatal CTG.

(iii) Evidence of maternal systemic adverse effects from dinoprostone such as nausea, vomiting, hypotension or tachycardia.

(iv) At least 30 minutes prior to starting an intravenous infusion of oxytocin, as there is a much greater risk of hyperstimulation if not removed before administration of oxytocin.

N.B. PROPESS® is not to be removed in cases of uterine contractions unless the woman is confirmed to be in labour or diagnosis of uterine hyperstimulation is made by means of an Abnormal CTG.

6.4 IOL stage II – PROSTIN® 3mg (max two doses 6 hours apart)

Women with a Bishop's score greater than 5 will commence IOL at this stage.

After 24 hours of the controlled release of prostaglandin in PROPESS®, the cervix will have been exposed to a total of 10mg of prostaglandin. This is therefore equivalent/greater than the repeated dose regimens of Prostin®.

6.4.2 Following Administration of Prostin®

The CTG should continue for 20 minutes of normal fetal heart rate pattern following administration of Prostin. The midwife should regularly review the CTG during this time.

After 1 hour, check maternal observations and note any adverse effects (nausea, vomiting, tachycardia, hypotension, fever, vaginal irritation, abdominal pain, vaginal bleeding).

If the woman is not high risk and has a normal CTG, the CTG can be discontinued. The woman should be advised to inform the midwife is she has any of the following:

- Regular contractions requiring analgesia
- Vaginal bleeding
- Reduced fetal movements
- If the membranes rupture
- Continuous abdominal pain
- Feels unwell

Following Prostin®, low risk women will have repeat CTG's every 6 hours and 4 hourly maternal observations. If after 6 hours and on examination the woman is suitable for amniotomy contact labour ward to arrange transfer.

If a significant delay for High Risk Consultant Led cases is anticipated please refer to the obstetrician for management plan. This may include recommending transfer to other Obstetric Units within the Health Board. If a significant delay in post term low risk pregnancies is anticipated please escalate to the senior midwifery management team.

CTG must be repeated immediately if onset of regular contractions requiring analgesia, SROM or if any concerns are raised by the women or the midwife responsible for care.

After administration of second dose of Prostin® and following six hours from administration a senior obstetric review must be requested for further personalised management plan. Women should be offered 24 hours rest following two cycles of induction agents (x1PROPESS® and x2 Prostin® or two cycles of Prostin®). The woman must receive the appropriate counselling.

After the second round of induction agents, conduct a senior obstetric review for a personalised plan / confirmation of failed IOL and preparation for Caesarean Section from the obstetrician reviewing the women if a decision is made for CS due to failed induction. The management plan must be discussed with the woman.

Note: Women should ***never*** be sent home because the induction process has failed. If a woman takes the decision to discharge this is discharge against medical advice.

6.5 Management of Hyperstimulation

6.5.1 Definition

Hyperstimulation = >5 contractions in 10 minutes +/- painful contractions each lasting >90 seconds PLUS an abnormal CTG.

Hyperstimulation affects <1% cases.

- Remove PROPESS® immediately and inform registrar / consultant on call. Prostin® cannot be removed but the same action must be taken to inform registrar / consultant on call
- Transfer the woman to labour ward immediately
- Continuous CTG monitoring.
- The active ingredient of PROPESS® has a short half-life therefore after removal of the pessary hyperstimulation should resolve within 20 minutes. This would not be the case with Prostin®.
- If hyperstimulation continues, stat dose subcutaneous terbutaline (250 micrograms) should be administered. This should only occur after senior obstetric review and should be prescribed. The prescription should not delay administration in case of emergency.
- If unsure please inform medical team.

6.6 Spontaneous rupture of membranes with Prostaglandin in situ

- PROPESS should be removed. Oxytocin infusion should not be commenced within 30 minutes of removal. However, if the woman is contracting regularly at this point, it may be appropriate to delay augmentation for 2 hours to see if labour establishes spontaneously.
- If SROM occurs, a CTG should be performed.
- Transfer to labour ward for augmentation of labour with oxytocin should be considered.

6.7 Fetal monitoring in labour

Providing that the CTGs have been reassuring during the induction process, intermittent auscultation may be used in labour, unless there are clear indications for Continuous Electronic Fetal Monitoring (CEFM) as described in the fetal monitoring in labour guideline.

6.8 Commencing Oxytocin after Prostaglandins

See appendix C for oxytocin regime for Oxytocin Regime for Induction or Augmentation of Labour.

After PROPESS®

If an oxytocin infusion is required following removal of the PROPESS® pessary, it may be started 30 minutes after the time of removal, in the presence of a normal CTG.

After Prostin®

Following administration of Prostin®, a period of at least 6 hours should have passed before commencement of an oxytocin infusion.

N.B. Please also refer to Appendix D to support decision making for priority for labour ward in times of high acuity on labour ward.

6.9 Induction of Labour using Oxytocin

See appendix C for oxytocin regime for Oxytocin Regime for Induction or Augmentation of Labour.

- ✓ Assess cervical status prior to the administration of oxytocin noting effacement, dilation and station (fetal descent).

- ✓ If forewaters are present, artificial rupture of membranes (ARM) should be performed prior to starting an oxytocin infusion.

- ✓ Oxytocin should always be prescribed prior to commencing an infusion. A verbal order should **never** be accepted.

- ✓ Oxytocin should be increased at intervals of 30 minutes and titrated against uterine contractions, aiming for a maximum of 4-5 contractions every 10 minutes. Please refer to Appendix Three for oxytocin regime.

- ✓ The fetal heart rate should be continuously monitored during the Oxytocin infusion. CTMUHB Guideline for the Recording and Monitoring of Fetal Heart Rate should be followed.

- ✓ Assess fetal heart rate (FHR) and contraction pattern every 30 minutes or before each incremental increase of oxytocin.

- ✓ Assess fluid intake (fluid balance chart) and output every 4 hours please observe bladder care.

7. Oxytocin for the Arrest of Labour

7.1 Indications

- Women in spontaneous labour failing to progress at the agreed rate of 2cm in 4 hours in first stage of labour.

- Failure to progress in the second stage of labour should instigate senior obstetric review prior to starting oxytocin in second stage to exclude cephalopelvic disproportion or obstructed labour.

Women in the Birth Centre requiring oxytocin acceleration of labour should be transferred to the obstetric unit and continuous electronic fetal monitoring should commence.

- **An oxytocin infusion should only be commenced at any stage of an arrested labour following thorough review by a Senior Obstetrician.**

- **Clinical findings and plan of care should be clearly documented in the case notes. If the senior obstetrician**

on call does not attend as requested, the Consultant on call should be contacted via the Band 7 midwife. (Please also see CTMUHB Guideline for Clinical Staff to Access Advice-Jump Call Procedures).

- **A plan of care via telephone must never be accepted in any circumstance.**

7.2 Uterine hyper contractility with oxytocin use

When a non-reassuring or abnormal CTG is present, the infusion should be decreased or discontinued. Uterine hyper contractility with or without FHR changes usually resolves with reducing or stopping the infusion, but if this fails then tocolysis should be considered using subcutaneous terbutaline 250 micrograms. Senior obstetric review should be sought and an appropriate prescription provided.

7.3 Pain relief

Birth attendants (Midwife / Obstetrician) should offer women support and analgesia as required, and should encourage women to use their own coping strategies for pain relief. The use of water for pain relief may be offered even when continuous fetal heart monitoring is required, including when PROPESS® is in situ.

7.4 Failed Induction

Failed induction is defined as labour not starting after two cycles of treatment.

If induction fails, the woman's condition and the pregnancy in general should be fully reassessed, and fetal wellbeing should be assessed using electronic fetal monitoring.

Decisions about further management should be made by a senior obstetrician in accordance with the woman's wishes, and should take into account the clinical circumstances.

8. Related Audit

- Women induced that meet the criteria for IOL
- Number of women having membrane sweeps prior to IOL
- Delays during the IOL procedure
- IOL Pathway Compliance

9. References

National Institute for Health and Care Excellence, Guideline CG70 Inducing Labour, July 2008, Reviewed 2014.

RCOG Green Top Guideline No 45, Birth After Previous caesarean Section, 2015.

Simhan HN and Caritis S. Inhibition of acute preterm labour. UpToDate. Waltham, MA: Wolters Kluwer Health [cited 07.07.20] Available from http://www.uptodate.com/home

Heart of England NHS Foundation Trust 2018 Induction of labour (IOL) including oxytocin Infusion (V10).

Royal Berkshire NHS Foundation Trust 2019 Oxytocin regime for augmentation or induction of labour guideline (GL925).

APPENDIX A- FLOW CHART FOR INDUCTION OF LABOUR PROCEDURES

Commence Induction of Labour Guideline

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Complete Pre IOL CTG
If CTG normal, perform VE. If Bishop's Score 0-5 administer PROPESS and continue CTG for 20 minutes (or until fetal wellbeing has been established).
If Bishop Score between 5–8 administer Prostin.
If Bishop's score ≥8, arrange for transfer to Labour Ward

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Perform CTG 6 hourly, or more frequently if indicated. Document this in the woman's records. Perform Intermittent Auscultation if the woman identifies a concern. If FHR concern identified perform CTG to assess fetal wellbeing.

↓

After 24 hours, remove PROPESS and perform 30 minute CTG (or until fetal wellbeing is established)
(If established labour is confirmed prior to this, PROPESS should be removed at that time)

↓

After CTG, Perform VE

Bishop's Score 0 - 7
Administer 1st dose of Prostin as prescribed and continue CTG for a further 20 minutes, or until fetal well-being is established

↓

After 6 hours,
Commence CTG. Perform VE to assess Bishop's Score

↓

Bishop's Score 0 - 7
Administer 2nd dose of Prostin as prescribed and continue CTG for a further 30 minutes, or until fetal well-being is established

Bishop's Score ≥8
Transfer to labour ward as soon as possible.
If any delay in transfer, for obstetric review and plan.

If not in established labour following these steps, senior review should be undertaken for a revised plan of care. Senior review should occur a minimum of every 24 hours during the IOL process, although this should not delay care.

Appendix B: Induction of Labour Procedure

- Introduce yourself to the woman. Admit to the ward.
- Begin IOL pathway, completing all necessary risk assessments prior to commencing any procedure.
- Ensure plan for IOL is clearly documented and prostaglandins are prescribed correctly. If the clinical picture has changed since the plan for IOL was made, Obstetric review should be sought. Verbal orders should **not** be accepted.
- Perform and document an antenatal assessment, including risk assessment, MEWS, urinalysis and abdominal palpation.
- Complete CTG for 30 minutes, or until fetal wellbeing is established.
- If the initial assessments and CTG are satisfactory, and after obtaining consent, perform a vaginal examination using water based lubricant gel. A modified Bishop's score should be documented as follows;

SCORE	**0**	**1**	**2**	**3**
Position of Cervix	Posterior	Mid	Anterior	-
Consistency	Firm	Average	Soft	-
Length	>4 cm	2 cm	1 cm	<1 cm
Dilatation	<1 cm	1 - 2 cm	3 – 4 cm	>4 cm
Station	- 3	- 2	-1/ 0	+1

- If the Bishop's score is below 5, insert the PROPESS® pessary in-between fingers and slide into the posterior fornix. Turn pessary into transverse position in the posterior fornix, withdraw fingers carefully

allowing pessary tape to run the length of the vagina and allow to hang outside the vulva.

- Perform a CTG for a minimum 20 minutes following insertion, or until fetal wellbeing is established.
- Advise the woman to take care when visiting the toilet not to pull on the tape. If at all concerned the woman should be told to inform a midwife.
- If the PROPESS® falls out there is no contraindication to replacing the pessary, providing no contamination has occurred. If the PROPESS® has to be replaced or a vaginal examination is necessary to establish commencement of labour, the number of vaginal examinations performed should be clearly documented in the notes.
- PROPESS® administration should be omitted and a referral made to the senior obstetrician if any of the following occur:-
  - Uncertainty regarding presentation by abdominal palpation.
  - SROM has occurred
  - Abnormal CTG or you have concern regarding the fetal heart
- If any risk factors exist, a CTG should be performed every 6 hours, or earlier if clinically indicated. If the woman complains of regular, painful or excessive uterine activity at any time, a CTG should be performed to determine fetal wellbeing. Risk factors include; **Previous caesarean section / Pre term (<37 weeks) / Prolonged Rupture of Membranes/ Post term (>42 weeks) / Multiple Pregnancy / FGR / IUGR/ Vaginal bleeding / Low AFI / Diabetes / Raised Blood pressure / PET/ Altered fetal movements**. This list is not exhaustive, and clinical judgment should always be used.

- Once labour has been diagnosed, or 24 hours have passed since insertion, retrieve the pessary by giving gentle traction to the protruding tape at the vulva, until completely removed.
- A vaginal examination should then be performed with consent to assess the Bishop's score and determine if further prostaglandins are needed, (please see flow chart in Appendix A), and a CTG performed
- If the CTG is normal, and Bishop's score is below 8, insert one 3mg Prostin® vaginal tablet high into the posterior fornix.
- Follow with a 20 min CTG or continue until fetal wellbeing is established.
- The process can be repeated after six hours (maximum dose 6 mg in 24 hours).
- Senior obstetric review should take place every 24 hours, with a clear plan for continued care.
- If the woman has not laboured after completing the regime, she will have a senior obstetric review. A 24 hour rest period should be considered and then the regime repeated if an ARM cannot be performed.
- If there is any delay at any point during the entire IOL procedure (start of IOL to birth of baby), the reasons for this should be clearly documented in the pathway and escalated to the most appropriate clinician for guidance. DATIX should be completed.
- If delays are necessary due to workload, an Obstetric review will take place for revised plan of care taking into account the clinical situation and risk factors.

Appendix C

Oxytocin Regime for Induction or Augmentation of Labour

INDICATION	• Induction or Augmentation of Labour The frequency, strength, and duration of contractions as well as the fetal heart rate must be clearly monitored throughout the infusion. Once an adequate level of uterine activity is attained, aiming for 4-5 contractions every 10 minutes, the infusion rate can often be reduced. In the event of uterine hyperactivity and/or fetal distress, the infusion must be discontinued immediately.
CAUTIONS	• Oxytocin should not be started for 6 hours following administration of vaginal prostaglandins. • Prior to commencing oxytocin patients should have a reassuring cardiotocograph (CTG). • Use with caution in the presence of borderline cephalopelvic disproportion, secondly uterine inertia, mild or moderate degrees of pregnancy-induced hypertension or cardiac disease, and in patients above 35yrs of age or with a history of lower-uterine-segment caesarean section (see VBAC Guideline on sharepoint).
Dose and Route	**Augmentation of the first stage of labour:** Use same regimen for primigravid and multigravid women

Dose and Route contd..

10 units oxytocin in 500mls of sodium chloride 0.9% given by infusion pump.

Time after starting infusion (minutes)	Rate of infusion (ml/hour)	Oxytocin dose (milliunits/min)
0	**3**	**1**
30	**6**	**2**
60	**12**	**4**
90	**24**	**8**
120	**36**	**12**
150	**48**	**16**
180	**60**	**20**

(1 unit=1000 milliunits)

Higher rates occasionally may be needed up to 32 milliunits/min (96ml/hour of 10units in 500ml) ***but only*** *after discussion with a senior registrar or consultant)*

Arrest in the second stage of labour:

Augmentation in the second stage of labour should only be commenced following review by a senior registrar or consultant.

Start infusion at **4mu/min** (12ml/hour) and increase by **4mu/min** (12ml/hr) every **15 minutes** as required. Max dose 20mu/min (60ml/hour). *Higher rates occasionally may be needed to 32mu/min (96ml/hour of 10units in 500ml)* ***but only*** *after discussion with senior registrar or consultant and documented instruction to do so.*

	10 units oxytocin in 500mls sodium chloride 0.9% given by infusion pump Time after starting infusion (minutes) / Rate of infusion (ml/hour) / Oxytocin dose (milliunits/min) **0** / **12** / **4** **15** / **24** / **8** **30** / **36** / **12** **45** / **48** / **16** **60** / **60** / **20** (1 unit = 1000 milliunits)

Appendix D clinical decision assessment tool

Clinical condition	Recommended gestation for IOL	Priority level
Post dates	41 – 42 weeks gestation	1
Preexisting diabetes Type 1 or 2	37 to 38+6	1
GDM low risk • **Diet / metformin controlled** • **Stable blood glucose** • **Normal AFI and normal growth**	39-40	2
GDM complicated • **Fetal macrosomia** • **Insulin** • **Poor controlled blood sugar** • **IUGR**	37-38+6	2
Maternal age (> 40 years)	39 to 40	1
IUGR/SGA	• Booked through consultant clinic only • Consider IOL at 37 weeks • Consider IOL at 34 weeks if static growth for 2 readings or abnormal Doppler	1
Pre eclampsia	Less than 37 weeks (consultant decision) More than 37 weeks	1 1
PIH • **Mild-moderate** • **Severe**	 More than 37 weeks 37	 2 1
Proteinuria (PCR≥ 30)	40	2

Obstetric cholestasis • **Bile acids > 40** • **Bile acids 12-40**	37 to 39+6 40 to 41	2 2
Previous traumatic birth	Consultant decision	3
Mental illness	Consultant decision	2
Pelvic girdle pain	39 to 40	3
Multiple pregnancy • **DCDA** • **MCDA (NO TTTS)** • **MCDA (TTTS)**	37 36 Consultant decision	2 2 1
IVF	Not reason for IOL Patient can be induced at 40weeks	
Reduced fetal movements (3 episodes and above)	➢ 37 to 39 Consultant decision ➢ 39 weeks	3 1
Severe Anxiety	➢ 39	2
Macrosomia	39 weeks	3