MATERNITY UNIT

GUIDELINE: Induction of labour

SCOPE: All midwives and obstetricians working in the Antenatal Clinic and Maternity unit

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PURPOSE: To inform those involved in inductions of labour (IOL) of the recommended process in order to maximise effectiveness and safety for women and their babies and align Hauora Tairāwhiti DHB (HT) guidelines with National guidelines to facilitate consistent practice.

DEFINITIONS: Induction of labour is the iatrogenic stimulation of uterine contractions to accomplish birth, prior to the onset of spontaneous labour.

CPR: Cardio-Pulmonary Resuscitation
EDD: Estimated Date of Delivery.
EFW: Estimated Fetal Weight.
GROW: Gestational Related Optimal Weight
HELLP: Haemolysis, Elevated Liver enzymes, Low Platelets
IUGR: Intra-Uterine Growth Restriction
LMC: Lead Maternity Carer.
LMP: Last Menstrual Period.
MCA: Mid Cerebral Artery
USS: UltraSound Scan
VBAC: Vaginal Birth After Caesarean.

CONTENTS

GUIDELINE

General Principles:

- IOL is recommended when it is considered advisable for the health and well-being of the woman and/or her baby. The alternative is awaiting the spontaneous onset of labour.

- Continue expectant management to 39 weeks' gestation or more, unless there is an evidence-based indication supporting earlier planned birth.

- After recommendations are made, it is expected that informed decision-making follows i.e. 3way conversation between the woman, her LMC and the obstetrician. Enable and respect woman's right to be fully informed about the quality of evidence underpinning a recommendation for induction of labour and be given the opportunity to make an informed choice.

- Women may have more than one risk factor and therefore clinicians need to individualise care when making the decision for IOL. As risk factors multiply, the rate of adverse outcome increases, though by how much is unknown.

- If an IOL is recommended by the obstetrician and consented to by the woman, the indication and method of induction must also be clearly documented. Any medications must be charted by the obstetrician, in the appropriate place on the woman's medication chart.

- Resources are limited, and there is a need for clinical prioritisation. Clinicians need to set realistic expectations for women.

- Cervical dilatation and effacement are good predictors of the likelihood of vaginal birth when labour is induced. Most induction methods are effective in women with favorable cervices (Bishop score>6). If the cervix is unfavourable some form of cervical ripening is recommended.

Indications for IOL include (but are not limited to):

Note that where there is currently insufficient high-quality evidence to make a clear recommendation about IOL for any condition Practice Points are suggested.

1. <u>Post-dates - ≥41 weeks gestation.</u>

- The only clinical indication where IOL has been shown to reduce perinatal death is in pregnancy at or beyond term. Offer IOL between 41+0 and 42+0 weeks' gestation to women with an uncomplicated pregnancy.
- This should be discussed with each woman and the decision made on an individual basis.
- It is recommended that clinicians have an informed discussion with women around the time of their estimated due date to discuss the benefits of IOL for women whose

pregnancies may be prolonged and to plan induction by 42 weeks. (MOH Referral Guidelines, 2012). It is at this consultation that an assessment, discussion and plan of care will be agreed and documented.

- Caution should be exercised when using an estimated date of delivery (EDD) from an ultrasound scan performed after 20 weeks gestation. RANZCOG suggests using the sonographically derived gestational age in days to calculate the EDD: if it differs from that calculated using the LMP by more than eight percent, then the scan date is to be used. Dating scans between 6-9weeks are thought to be the most accurate in dating a pregnancy if dependant on an EDD from an USS and no reliable LMP.
- If an IOL is recommended by the obstetrician and consented to by the woman, the indication and method of induction **must also be clearly documented.** However, if the woman declines the recommended IOL then she should be carefully monitored from 41 weeks, beyond 42 weeks this should include twice weekly CTG and a weekly ultrasound for evaluation of amniotic fluid and dopplers.

Recommendation: Offer induction of labour between 41+0 and 42+0 weeks gestation to women with an uncomplicated pregnancy, to reduce the risks of perinatal death, caesarean section, 5-minute Apgar <7, and meconium aspiration syndrome.

2. Intrauterine Growth Restriction (IUGR)

It is recommended that all women should have a 'GROW' customised growth chart and have serial symphysio-fundal height measurements from 24 weeks gestation (age of viability). Any deviations should be referred for growth scans as per GROW recommendations. If IUGR is suspected (<10th centile on this growth chart and failing to gain weight), then this may be an indication for IOL depending upon gestation and obstetric decision making.

Practice Points:

- For women with suspected small for gestational age fetus or fetal growth restriction, in settings where detailed Doppler studies are unavailable, offer IOL at around 38 weeks' gestation (or earlier if concern).
- For women with suspected small for gestational age fetus with abnormal umbilical artery Dopplers, consider offering induction of labour at around 37 weeks' gestation (low threshold for planned birth if there is any concern about maternal or fetal well-being or if there is suspected cessation of fetal growth).
- For women with suspected small for gestational age fetus with abnormal MCA, CPR or uterine artery Dopplers, or EFW <3rd centile, offer IOL at around 38 weeks' gestation (or earlier if concern).
- For women with suspected small for gestational age fetus with normal MCA, CPR and uterine artery Dopplers, and EFW 3rd centile or more, offer IOL at around 40 weeks' gestation (or earlier if concern). These babies are likely to be constitutionally small and are at lower risk of adverse outcome.

3. **Rupture of the membranes at term (>37 weeks) or pre-term ROM – see guideline *Pre-labour rupture of the membranes* and *pre-term rupture of the membranes***

Recommendation:

- For women with pre-labour rupture of membranes at ≥37 weeks' gestation, offer planned early birth, (immediate intervention or intervention within 24 hours) to reduce the risks of maternal infectious morbidity, definite or probable early-onset neonatal sepsis, and NICU admission.

Practice Points:

- For women with prelabour rupture of membranes, share information with women as early as practical after rupture of membranes to support informed decision making.
- Unless immediate IOL is planned, avoid digital vaginal examination.
- If neonates are at risk for early-onset neonatal group B streptococcal sepsis (Darlow 2015, RANZCOG 2016), offer immediate IOL.
- If liquor is meconium-stained, consider immediate IOL.

4. Hypertensive disorders:

Recommendations:

- For women with chronic hypertension and low risk of adverse outcomes, consider expectant management beyond 37 weeks' gestation with increased monitoring.
- For women with gestational hypertension diagnosed after 37+0 weeks' gestation, consider IOL, to reduce the risks of severe hypertension, severe preeclampsia, HELLP syndrome, abruptio placenta, pulmonary edema, severe renal impairment, and fetal growth restriction.
- For women with preeclampsia diagnosed after 37+0 weeks' gestation, offer IOL.

5. Multiple pregnancy at term:

Practice Points:

- For women with an uncomplicated monochorionic diamniotic twin pregnancy, consider offering induction of labour between 36 and 37 weeks' gestation.
- For women with an uncomplicated dichorionic twin pregnancy, consider offering induction of labour between 37 and 38 weeks' gestation.

6. Diabetes in Pregnancy:

Practice Points:

- For women with gestational diabetes, continue expectant management to at least 40 weeks' gestation, in the setting of good glycaemic control, normal fetal growth and no obstetric complications.
- For women with Type 2 diabetes, continue expectant management to 39 weeks' gestation, unless there are obstetric or fetal indications for earlier birth, or diabetes complications such as vascular disease.
- The management of women with Type 1 diabetes is to be individualised.

7. Cholestasis:

Practice Point:

For women with obstetric cholestasis, if symptomatic or if serum bile acid concentration ≥100, consider induction of labour; otherwise consider expectant management.

8. Reduced Fetal Movements:

Practice Point:

For women with reduced fetal movements, in the presence of normal maternal and fetal assessment, continue expectant management.

9. Maternal Obesity:

Practice Point:

For women with maternal obesity, in the absence of other risk factors or pregnancy complications, consider expectant management of labour.

10. Advanced Maternal Age: (≥35)

Practice Point:

For women age 40 years and over, consider offering IOL at around 40 weeks' gestation.

11. Antepartum haemorrhage of unknown origin:

Practice Point:

In women with antepartum haemorrhage of unknown origin, in the presence of normal maternal and fetal assessment, consider expectant management.

12. Assisted Reproductive Technology (ART):

Practice Point:

In women who conceive using assisted reproductive technology, in the absence of other risk factors or pregnancy complications, consider expectant management of labour.

13. Suspected fetal macrosomia:

Practice Point:

In women with suspected macrosomia, in the absence of pregnancy complications, consider expectant management.

14. Reduced liquor < 41 weeks' gestation:

Practice Point:

In women with reduced liquor as an isolated finding at < 41 weeks' gestation, in the presence of normal maternal and fetal assessment, consider expectant management.

15. Previous stillbirth:

Practice Point:

For women with previous stillbirth, consider expectant management or induction of labour, based on a review of risk factors for recurrence and any other antenatal risk factors, and guided by maternal choice.

16. No medical indication (Maternal request):

Practice Point:

Consider expectant management of labour in the absence of a medical indication. The management of induction of labour for maternal request is to be individualised.

17. Other Indications (not covered in the 2019 National Guideline)

- Intrauterine fetal death (IUFD)
- Fetal compromise: Chorioamnionitis, iso-immunisation, fetal compromise on Cardiotocograph (CTG), biophysical profile <4/10 or 2/8 or abnormal Doppler studies on ultrasound.
- Fetal abnormalities – e.g. diaphragmatic hernia
- Maternal medical/surgical conditions in pregnancy:
- Obstetric history

Booking an IOL

1. Women, who have been assessed and consented for IOL, must be booked into the maty schedule at maternity, along with the reason for the IOL.

2. No more than 1 IOL per day may be booked unless prior arrangements are made via the Midwife Unit Manager or her deputy. If unable to accommodate the IOLs, the obstetrician will be requested to prioritise the urgency of each induction and document the reasons for delay as necessary.

3. IOLs will not be booked routinely at weekends or Public Holidays unless there are extenuating circumstances and sufficient staffing levels to meet acuity.

4. The LMC will be made aware of any changes to planned IOL in order to inform the woman. If a woman births prior to the planned IOL, the LMC or core midwife must ensure that the planned IOL in the maty schedule is cancelled.

Special care/caution

Special care is to be taken in the following circumstances:

- History of one or more LSCS
- Maternal cardiac disease or compromise
- Multiple pregnancy
- Polyhydramnios
- High presenting part
- Abnormal fetal heart rate patterns
- Grand multiparity

Contraindications

- Vasa praevia/complete placenta praevia
- Transverse lie

- Breech presentation
- Uterine surgery involving upper uterine segment
- Previous classical LSCS
- Active Genital Herpes infection

Note that all methods of induction carry risks.

Admission for IOL

The LMC will have communicated and documented what involvement she will have with the IOL. She may choose to commence the IOL or provide midwifery care once the woman is in established labour, or she may hand over the midwifery care for the whole labour and birth to the core midwives. This must be clearly documented (see *NZCOM Transfer Guidelines*) and communicated to core midwives. The woman must know who is responsible for her midwifery care at all times during her IOL.

The core midwife (or LMC) will inform the obstetrician on call of the planned IOL. The method of IOL and plan of care should be recorded in the appropriate places prior to commencement of the IOL. If a midwife is happy to take a verbal order, then the organisational guideline must be followed (see *safe use of medicines*).

Cervical assessments will be performed by the midwife (core or LMC) or obstetrician using the Modified Bishop Scoring system. Whenever possible, the same practitioner should perform the ongoing cervical assessments.

Modified Bishop scoring system

	0	1	2	3
Dilation, cm	Closed	1-2	3-4	5-6
Effacement, length	>3cm	1 - 3 cm	<1	
Station *	-3	-2	-1, 0	+1, +2
Cervical consistency	Firm	Medium	Soft	
Position of the cervix	Posterior	Mid-position	Anterior	

*****based on a -3 to + 3 scale

Assessment on admission for IOL

1. Baseline observations and abdominal palpation should be performed including a urinalysis.
2. A CTG should be performed for baseline fetal heart monitoring and uterine activity. If the CTG is normal, continue with the IOL. If the CTG is abnormal, notify the obstetrician immediately and continue the CTG.
3. Insert an intravenous line and obtain blood tests as indicated, usually a minimum of Complete Blood Count (CBC) and Group and Hold.

Continue the IOL according to the care plan documented by the obstetrician, liaising with the obstetrician on call.

'Stripping/sweeping' the membranes

Membrane sweeping is the only intervention shown to reduce the need for formal IOL.

Recommendation:

Consider offering membrane sweeping at term to reduce the frequency of pregnancy continuing beyond 41 weeks' gestation.

Practice Point:

If offering membrane sweeping, consider performing from around 39 weeks' gestation.

This is the digital separation of the chorioamniotic membrane from the wall of the cervix and lower uterine segment during vaginal examination. The exact mechanism of action is not fully understood, but is thought to release prostaglandins that are produced locally from the chorion and amnion and adjacent decidua.

Stripping or sweeping is performed following informed consent from the women, by inserting the index finger, as far through the internal cervical os as possible, rotating twice through 360º.

The woman needs to be aware that following the procedure if she has any concerns she should contact her LMC. Such problems may be rupture of membranes (ROM), bleeding, decrease in fetal activity, fever, regular contractions commencing, or if discomfort continues between uterine contractions.

Risks include:

- Intra-amniotic infection
- Unplanned ROM
- Disruption of an undiagnosed placenta praevia
- Precipitous labour and birth

Contraindications include:

- History of low lying placenta
- Placenta praevia
- Caution when vaginal infection/colonization is present e.g. Chlamydia, etc.

Methods of Cervical ripening:

1. Prostaglandin E2 (PGE2) hormone (dinoprostone) gel or pessary
2. Mechanical methods, such as balloon catheter

Recommendations:

- Offer cervical ripening with prostaglandins to women with unfavourable cervix, to improve the chance of vaginal birth within 24 hours, compared to oxytocin alone.

- Offer either PGE2 vaginal gel or controlled-release pessary for cervical ripening, as both methods are comparable to achieve vaginal birth in 24 hours, and for risk of caesarean section.

- Offer balloon catheter for cervical ripening, to reduce the risk of uterine hyperstimulation with fetal heart rate changes, compared to prostaglandins.

- For single-balloon catheter: Inflate greater than 30 mL (and not more than manufacturer recommendation), to increase the chance of vaginal birth in 24 hours, compared to 30mL or less.

Practice Points:

- Consider offering membrane sweeping concurrent with cervical ripening.
- For cervical ripening with PGE2 vaginal gel: Decide initial dose based on parity and Bishop score. If nulliparous and BS≤4, consider 2mg; otherwise consider 1mg. Decide subsequent dose based on cervical change – if none, consider 2mg; otherwise consider 1mg. Use as per manufacturer's instructions.
- For cervical ripening with PGE2 controlled-release vaginal pessary: Pessary may have higher risk of uterine tachysystole and hypertonus compared to vaginal gel. Use as per manufacturer's instructions, see appendix 1.
- For cervical ripening with balloon catheter, consider offering either single- or double-balloon, as both are comparable to achieve vaginal birth in 24 hours, and for risk of caesarean section. Use double balloon catheter as per manufacturer's instructions.

Methods of Induction of Labour:

Artificial Rupture of Membranes
Syntocinon Infusion

Practice Points:

- To start induction of labour once cervix is favourable, consider offering the combination of artificial rupture of membranes and intravenous oxytocin infusion, to increase chance of vaginal birth within 24 hours.
- The timing and order of performing artificial rupture of membranes and starting intravenous oxytocin infusion to be individualised and negotiated between the woman, her Lead Maternity Carer, the hospital midwife and the obstetrician.
- Offer either low- or high-dose oxytocin protocol, as both methods are comparable to achieve vaginal birth in 24 hours, and risk for caesarean section.
- Usual time interval to increase dose of oxytocin is approximately 20 minutes.

<u>Artificial Rupture of the Membranes (ARM)</u>

Risks associated with amniotomy include:

- Infection;
- Disruption of an occult placenta praevia;
- Rupture of a vasa-praevia;
- Umbilical cord prolapse.

Syntocinon infusion

See separate guideline - *Syntocinon intravenous infusion for induction or augmentation of labour.* **Note that oxytocin is less successful for labour induction when used in women with uneffaced and undilated cervices. A ripening process should be used prior to oxytocin induction when the cervix is unfavourable**

Transcervical balloon catheter:

In a woman with an unfavourable cervix, ripening of the cervix by mechanical means such as a transcervical balloon catheter (Size 16fg Foley's catheter) may be considered and discussed with the obstetrician. Between 30 mL and 60 mL of sterile water may be inserted into the Foleys balloon. A study showed that a significantly higher proportion of women who received 60mls achieved delivery within 12 hours of placement compared with the 30 mL Foley balloon group. There were no differences in the frequencies of caesarean delivery, maternal morbidity, or neonatal outcomes.

The catheter is left in place until it is extruded or for up to 12 hours. Syntocinon is begun after the catheter has been extruded or removed. A randomized trial found that removing non-extruded catheters after 12 hours and beginning syntocinon resulted in significantly more vaginal deliveries within 24 hours than waiting 24 hours before removal and syntocinon induction (60 versus 21 percent), and did not lead to an increased risk of caesarean delivery. For women where prostaglandin is not an option it may be beneficial to leave the catheter in-situ for 24 hours i.e. VBAC.

In general, there is no need to add syntocinon for nulliparous patients who have a transcervical balloon catheter in place. However, it should be considered for multiparous patients as it may decrease time to delivery without adverse effect.

Prostaglandin gel

PGE2 stimulates uterine and gastrointestinal smooth muscle. Contractions produced by the gravid uterus by prostaglandin E2 are similar to those occurring in the term uterus during spontaneous labour.

Prostin E2 is indicated for the IOL in term or near term pregnancies that have favourable induction features and a singleton pregnancy.

Using intra-vaginal PGE2 gel, according to the obstetrician's directions:

- Nulliparous women with a modified Bishops score < 4 give 2 milligrams
- All other patients give 1 milligrams

- Repeat dose of 1–2 milligrams six hourly depending upon response to the initial dose and obstetrician directions
- Do not delay in administering the repeat dose of intra-vaginal PGE2 gel if all recordings are reassuring ie repeat and record baseline observations including a urinalysis and perform a 30 minute CTG monitoring prior to the recommended 6-hour time frame elapsing for the repeat dose of PGE2 (1st dose 8am, 2nd dose no later than 2pm) intra-vaginal PGE2 gel.
- If the woman does not establish in labour then repeat all baseline observations and a CTG after a further 6 hours (earlier if indicated) from the 2nd dose of PGE2, if there is little or no cervical change, then the woman will need to be reviewed by the obstetrician and a decision made as to whether a 3rd dose of PGE2 is administered or the woman may be encouraged to rest overnight and be reviewed again in the morning, with a view to further PGE2 administration
- Maximum dose 4 milligrams in 24 hours

If prostaglandins have been used for cervical ripening, it is recommended that further methods of IOL should not commence until 6 hours have elapsed from the last prostaglandin administration.

Contraindications and relative contraindications include:

- Patients with known hypersensitivity to prostaglandin or any constituents of the gel
- Multiple gestation
- Grand multiparity (6 or more previous pregnancies)
- Non-engagement of the fetal head
- Previous uterine surgery (caesarean section, hysterotomy)
- Cephalo-pelvic disproportion
- Fetal heart rate suggestive of compromise
- Obstetric conditions where either maternal or fetal benefit/risk ratios favour surgical intervention
- Unexplained vaginal discharge and/or bleeding during current pregnancy
- Non-vertex position

Administration:

- Only to be used if the woman is not contracting (please distinguish between contractions and ineffective tightenings)
- Prior to administration, an initial baseline CTG monitoring of at least 30 minutes should be reassuring and the Bishops Score should be ≤5.
- A vaginal examination should be performed with informed consent, and the gel should be inserted into the posterior fornix.
- The CTG should be commenced and continued for 30 – 40 minutes post insertion, observing closely for any effects from the prostaglandin:
    - If CTG is abnormal or side effects noted, contact the obstetrician immediately (using the phone in the DU room if possible). Continue monitoring and ask for further midwifery/nursing help if required.

- If CTG is normal and the woman is low risk, discontinue and encourage the woman to mobilise. Auscultate the fetal heart rate every hour, until uterine contractions are noted. Any deviation from the normal or in high risk pregnancy, CTG monitoring should be discussed with the obstetrician. There is a cordless monitor which may be used so that the woman can mobilise.
- Continuous CTG monitoring should be performed once contractions are regular, even if these are not painful, unless otherwise agreed with the obstetrician.

Possible Side effects of prostaglandins include:

- Uterine tachysystole (i.e. 5 or more contractions in 10 minutes)
- Hypertonic uterus (contractions lasting longer than 2minutes or occurring within 60 seconds of each other)
- Maternal fever
- Nausea
- Vomiting
- Diarhoea
- Fetal bradychardia
- Fetal tachycardia
- Non-reassuring CTG

Note that syntocinon should NOT be used within 6 hours of prostaglandin gel insertion due to the potential uterotonic effect of combining oxytocin with prostaglandin agents.

Cervidil:

Each cervidil pessary contains 10mg of dinoprostone and releases approximately 0.3mg per hour. Cervidil promotes cervical ripening in patients at or near term, in whom there is a medical or obstetrical indication for the induction of labour.

Dinoprostone is eliminated from the circulation rapidly, with a half-life of less than one minute.

Directions:

1. Avoid contact with skin while handling; wash hands thoroughly with soap and water before and after administration.
2. To remove from the packaging, first tear the foil along the top of the sachet. Do not use scissors or sharp instruments to cut the foil as this may damage the product. Use the retrieval tape to gently pull the product out of the sachet.
3. Insert the pessary immediately after removal from the freezer.
4. One vaginal insert is placed transversely in the posterior fornix of the vagina (see appendix 2), with only minimal water soluble lubricants to aid insertion.
5. The withdrawal tape may be trimmed with scissors but always ensure there is enough outside the vagina to facilitate removal. Do not tuck the end of the tape into the vagina
6. Patients should remain in the recumbent position for 30 minutes after insertion, but thereafter may be ambulatory.
7. Cervidil may be kept in-situ for up to 24 hours.

8. It is important to monitor uterine contractions and fetal condition at frequent intervals following insertion.

The pessary should be removed at least 30 minutes prior to commencing a syntocinon infusion or if any of the following occur:

- Onset of labour – the presence of regular, painful contractions occurring every 3 minutes **irrespective of cervical change;**
- Prior to amniotomy;
- Following spontaneous rupture of membranes;
- Any suggestion of excessive uterine activity with fetal distress or hypertonic uterine contractions;
- Evidence of fetal distress;
- Evidence of maternal systemic adverse effects such as nausea, vomiting, hypotension or tachycardia;
- If there has been insufficient cervical ripening within 24hours.

Potential adverse reactions include:
Genitourinary: Tachysystole/Uterine hypertonus (2% to 5%), uterine hyperstimulation with fetal distress (3%)
Abdominal pain, diarrhoea, fever, nausea, uterine rupture, vomiting (<1%)

Contraindications
Hypersensitivity to prostaglandins or any component of the formulation;
- previous uterine surgery or rupture
- when vaginal delivery is not indicated (vasa praevia, active herpes genitalia);
- when labour has commenced
- fetal distress (suspicion or clinical evidence unless delivery is imminent);
- Fetal malpresentation

Use caution with:
- ruptured membranes;
- unexplained vaginal bleeding during this pregnancy;
- non-vertex or non-singleton pregnancy;
- >3 previous full term deliveries;
- history of hypertonic uterus;
- glaucoma;
- history of asthma;
- epilepsy.

Other warnings/precautions:
- Dinoprostone should be used only by trained personnel in a hospital.

In the presence of uterine hyperstimulation (tachysystole or hypertonus AND fetal heart rate abnormalities), the emergency management of excessive uterine activity is as follows:

1. **Note if cervidil in situ – remove asap if indications as above**
2. **Administer terbutaline or salbutamol unless maternal cardiac disease or thyrotoxicosis**
   a. terbutaline injection can be administered subcutaneously 0.25 mg (0.5mls of the 500mg/ml preparation).

   Monitor maternal and fetal observations every 10 minutes observing for safe parameters of:
   - Maternal pulse (<140bpm)
   - Maternal respiratory rate (<24rpm)
   - Fetal heart rate (<180bpm)

   b. alternatively, **Salbutamol can be administered via an inhaler** preferably using a spacer device (can be ordered through physiotherapy department). The recommended dose is **2 puffs every 5 minutes, with an upper limit of 12 puffs.** Continue until obstetrician arrives or contraction/s reduce in strength and frequency. Salbutamol injection can be administered subcutaneously 0.25 mg (0.5mls of the 500mg/ml preparation).
3. Position woman to left lateral position and administer oxygen via Hudson facial mask at 4L/min – press emergency call bell for immediate help and call 777 and state obstetric emergency.
4. Continuous CTG monitoring
5. Insert 16 Gauge IV leur if not already in situ and send urgent bloods for CBC and Group and hold if not already been sent.

Failed IOL

There are no standards for what constitutes a failed induction. It is important to allow adequate time for cervical ripening and development of an active labour pattern before determining that an induction has failed. The importance of allowing enough time to progress from the latent phase of labour to the active phase has been illustrated in many studies.

The goal is to minimise the number of caesarean births performed for failed induction in women who are progressing slowly because they are still in the latent phase of labour. Once induced women enter active labour, progression should be comparable to progression in women with spontaneous active labour, or faster.

ASSOCIATED DOCUMENTS

Appendix 1 - Administration of cervidil

Maternity Unit guidelines:

- Pre-labour rupture of membranes
- Group B Strep
- Pre-term Pre-labour rupture of membranes
- Admissions and assessments in the maternity unit
- Fetal monitoring in labour
- Genital Herpes
- Inhibition of pre-term labour

- **Hauora Tairāwhiti organisational policy**: Safe use of medicines

REFERENCES

- ACOG Practice Bulletin No. 98*:* Ultrasonography in pregnancy. *ObstetGynecol*2008; 112:951
- Cromi A, Ghezzi F, Agosti M, et al. Is transcervical Foley catheter actually slower than prostaglandins in ripening the cervix? A randomized study. Am J ObstetGynecol 2011; 204:338.e1.
- Induction of Labour in Aotearoa New Zealand – a Clinical practice guideline 2019
- MacKenzie, A.P., Stephenson, C.D., Funai, E.F. (2009) Prenatal assessment of gestational age. Up to date on line. Downloaded on 5 December 2009 from: http://www.uptodateonline.com/online/content/topic.do?topicKey=obstetri/5147&view=print
- Medsafe (2012) Prostin E2 (PGE2) – Data sheet from www.medsafe.govt.nz
- Medsafe (2014) Cervidil - Data sheet from www.medsafe.govt.nz
- Ministry of Health (2007). *Maternity Services: Notice pursuant to Section 88 of the New Zealand Health and Disability Act 2000*
- Ministry of Health (2012). *Guidelines for Consultation with Obstetric and related Medical Services (Referral Guidelines).* Wellington: MOH
- National Institute for Clinical Excellence (2001). Induction of labour
- NZCOM (2008) Transfer Guidelines
- Pettker CM, Pocock SB, Smok DP, Lee SM, Devine PC Obstet Gynecol. (2008). Transcervical Foley catheter with and without oxytocin for cervical ripening: a randomized controlled trial. 111(6):1320.
- RANZCOG (2014) Intrapartum Fetal Surveillance. Clinical Guideline – Third edition.
- RANZCOG college statement (2006) Use of prostaglandins for cervical ripening prior to the induction of labour
- Wing,D., Lockwood, CJ &Barss, V (2015). **Techniques for cervical ripening prior to induction. Up to date on line. Downloaded on 10thDec, 2015 from: http://www.uptodate.com/contents/techniques-for-cervical-ripening-prior-to-labor-induction?source=preview&anchor=H4#H4**

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Appendix 2

Administration of cervidil

Figure 1