The following is a suggested guideline and does not replace ongoing clinical assessment and professional judgment.

TABLE OF CONTENTS
1. Practice outcome ................................................................. 1
2. Definitions ........................................................................... 1
3. Background .......................................................................... 2
4. Guidelines ............................................................................ 2
5. Procedures
   5.1 Cervidil® (Dinoprostone 10mg) Vaginal Insert ...................... 4
   5.2 Prostin® (Dinoprostone 2mg/2.5mL) Gel (vaginal) ................. 6
   5.3 Vaginal Misoprostol (PGE₁) for Cervical Ripening Tablet ........ 7
   5.4 Single Balloon Catheter .................................................... 7
   5.5 Oxytocin ........................................................................... 8
   5.6 Titrated Oral Misoprostol ................................................... 9
   5.7 Vaginal Misoprostol for Fetal Demise .................................. 10
6. References ............................................................................. 10
7. Resources ............................................................................... 11
8. Primary Authors. ................................................................. 11
   Appendix A – Modified Bishop Scoring System ..................... 12
   Appendix B – Oxytocin Titration Table .................................... 13
   Appendix C – Protocol for Induction of Labour with Titrated Oral Misoprostol .................................................. 14
   Appendix D – Oral Misoprostol Dissolve and Dose Instructions for 50 mcg tablet. .................................................. 15
   Appendix E – Vaginal Misoprostol dosing Options for fetal demise ................................................................. 16
   Appendix F – Classification of Electronic Fetal Monitoring Tracing ................................................................. 17
   Appendix G – Management of Tachysystole with Abnormal Fetal Heart Rate Pattern ......................................... 18
   Appendix H – Nitroglycerin Sublingual Spray .......................... 18

1. PRACTICE OUTCOME
   1.1. To promote the effective and safe use of Prostin®, Cervidil®, Misoprostol and single balloon catheters for cervical ripening and induction of labour.
   1.2. To promote the effective and safe use of oxytocin for induction of labour on the labour and delivery unit.
   1.3. To promote the effective and safe use of oxytocin for augmentation of labour on the labour and delivery unit.

2. DEFINITIONS
   2.1. Tachysystole: greater than 5 contractions per 10 minute period averaged over 30 minutes. This is further subdivided into two categories: with and without fetal heart rate changes (Macones, Hankins, Spong, Hauth & Moore, 2008).
   2.2. Unfavorable cervix: Bishop Score less than 6 (See Appendix A).
   2.3. Cervidil® (Dinoprostone 10mg) Vaginal Insert: A prostaglandin E₂ (PGE₂) product placed in the posterior vaginal fornix. It can be left in the vagina for 12 to 24 hours.
   2.4. Prostin® (Dinoprostone 2mg/2.5mL) Gel: A PGE₂ product placed in the posterior vaginal fornix. Its duration of action is 4-6 hours.
2.5. **Misoprostol** (PGE₁): A tablet used for cervical ripening which is placed in the posterior fornix of the vagina. Serum levels peak 75 minutes after administration and clinical activity peaks at 3 hours. Its duration of action is 4-6 hours.

2.6. **Single balloon catheter**: Size 16, 18 or 20 French urinary catheter with a 30mL balloon that can be inserted into the cervix to apply pressure to the internal os.

2.7. **Double balloon catheter**: A catheter with a uterine and cervicovaginal balloon, which applies pressure on the cervical os. It is often referred to as a Cervical Ripening Balloon.

3. **BACKGROUND**

3.1. Prostaglandins (E₁ and E₂) are naturally occurring prostaglandins which stimulate the myometrium of a gravid uterus to contract.

3.2. A single balloon catheter is a mechanical method of cervical ripening which results in direct pressure and overstretching of the lower segment, cervix and the local release of prostaglandins. (Leduc, Biringer, Lee, & Dy, 2013).

3.3. Studies report lower rates of hyperstimulation with catheter inductions compared to Prostin® inductions (Jowiak et al., 2012).

3.4. Pain scores are significantly lower with the use of a single balloon catheter versus a double balloon catheter. (Pennell, Henderson, O’Neill, McCleery, Doherty & Dickenson, 2009).

3.5. Simultaneous use of balloon catheters and oxytocin may increase the need for additional analgesia and does not decrease the time to commencement of labour (Pettker, Pocock, Smok, Lee & Devine, 2008).

3.6. The SOGC recommends that double balloon catheters may be considered as a second-line alternative to a single balloon catheter (Leduc et al., 2013).

3.7. Misoprostol is a prostaglandin that can cause both cervical ripening and stimulation of uterine contractions. It may be used in a patient who meets the criteria for vaginal prostaglandin use.

3.8. Once active labour is established or membranes are ruptured, there is increased myometrial activity. Therefore, the rate of oxytocin may need to be reduced.

4. **GUIDELINES**

4.1. An Induction Booking Form (FORM # NS01160) should be completed.

4.2. Prior to the administration of Prostin®, Cervidil®, misoprostol, a single balloon catheter, or oxytocin ensure the following has been done:

4.1.1. An electronic fetal monitoring (EFM) strip is reviewed and discussed with the attending physician.

4.1.2. Maternal vital signs are recorded.

4.1.3. Physician order for the chosen intervention is obtained.

4.1.4. Physician, resident, or Registered Nurse (RN) who has been specifically trained in prostaglandin insertion enters the following information in the Integrated Progress Notes:
   - Indication for cervical ripening/induction/augmentation of labour
   - Description of the fetal heart rate pattern
   - Description of the most recent cervical exam with Bishop score (if applicable)(see Appendix A)
   - Leopold findings
   - Intervention performed and time of administration

4.3. Adverse reactions

4.2.1. PV bleeding (Prostin®, Cervidil®, Misoprostol, or a single balloon catheter).

4.2.2. Tachysystole.
4.2.3 Water Intoxication (with high risk doses of oxytocin i.e. > 40 mU/min). In situations of Gestational Hypertension with proteinuria, water intoxication can occur earlier.

4.4. If oxytocin has been discontinued and cervical ripening is needed, a cervical ripening agent may be administered 30 minutes following the discontinuation of oxytocin.

4.5. Oxytocin:
   4.5.1 Oxytocin is administered intravenously (IV) by a Registered Nurse/Midwife with specific training to administer oxytocin for induction and/or augmentation of labour. If a midwife is administering the product they must have an order from the consultant physician.
   4.5.2 Preparation of oxytocin for induction/augmentation is a visual verification as per WRHA policy/HSC # 80.120.700.
   4.5.3 Infusions above 26 milliunits per minute are permissible only if ordered by an attending physician and/or delegate OR by consultation if the attending physician is a family physician or midwife with additional privileges.
   4.5.4 The initiation of oxytocin induction and/or augmentation may be considered AFTER the following time intervals:
      - Cervidil® (Dinoprostone) Vaginal insert: 30 minutes after dinoprostone insert removal.
      - Prostin® (Dinoprostone) Gel: 6 hours after administration.
      - Misoprostol: 4 hours after administration.
   4.5.5 Criteria for low dose protocol:
      - Patient attempting a vaginal delivery after caesarean birth (VBAC).
      - Multiparous patient with 3 or more previous spontaneous vaginal deliveries (SVD).
      - Augmentation of labour.
   4.5.6 Criteria for standard protocol
      - Nulliparous induction of labour.
      - Multiparous induction of labour with less than 3 previous SVD’s.

4.6. Contraindications
   4.6.1 Contraindications for all prostaglandins:
      - Previous cesarean section or other significant uterine surgery (absolute)
      - Parity greater than or equal to 4 (relative)
      - Abnormal fetal heart rate pattern (relative)
      - Fetal growth restriction (relative)
      - Regular and painful uterine contractions (absolute)
   4.6.2 Contraindications for single balloon catheters
      - Low-lying placenta (absolute)
      - Antepartum hemorrhage (relative)
      - Ruptured membranes (relative)
      - Evidence of a lower genital tract infection (relative)
5. PROCEDURES

5.1. Cervidil® (Dinoprostone 10mg) Vaginal Insert

5.1.1 May be administered by a physician, resident, registered midwife or registered nurse with specific training in prostaglandin insertion. If a resident or registered nurse will be inserting the product, they must discuss the intervention with the attending physician prior to insertion. If a midwife is inserting the product they must have an order from the consultant physician.

5.1.2 Place Cervidil® transversely in the posterior fornix of the vagina, with the retrieval string placed close to the introitus for easy accessibility but not outwardly visible.

5.1.3 Provide the following instructions to the patient:
- Dab dry rather than wipe after voiding.
- Note: If the vaginal insert falls out (i.e. protrudes beyond the labia) it may be reinserted. If the product is suspected to be soiled, place a new vaginal insert.

Post insertion instructions

5.1.4 Continuous electronic fetal monitoring including assessment of uterine activity should be carried out for 1 hour following insertion. Assess and record fetal heart rate and uterine activity every 15 minutes during that hour.

5.1.5 If the fetal heart rate pattern remains normal (see Appendix (F) and the patient is not in labour after the initial 1 hour of observation, continuous electronic fetal monitoring may be discontinued. The decision will be made by the attending physician whether the patient can go home on a pass (see criteria in box below) with follow up instructions or whether they will remain an inpatient.

For INpatient use:

- If the patient remains an inpatient, a 20 minute electronic fetal monitoring strip must be recorded every 4 hours and contractions clinically assessed, while Cervidil® remains in situ. Additional fetal monitoring may be ordered upon physician request.
- After the initial 1 hour of observation, the patient may ambulate and shower. The patient is instructed to inform nursing staff of the following:
  - Regular contractions
  - Spontaneous rupture of membranes
  - If the Cervidil® insert falls out
- Once actively labouring, refer to the intrapartum fetal surveillance guideline for monitoring instructions.
- If the patient is to remain in hospital, they must have an inpatient or Perinatal Assessment Unit bed.
For OUTpatient use:

- A patient may go home following appropriate monitoring after Cervidil® depending on the attending physician’s preference. An order from the attending physician is required to allow an outpatient pass.

- Exclusion criteria for outpatient use:
  - Less than 37 weeks or greater than 42 weeks
  - Atypical/abnormal fetal heart rate pattern
  - Decreased amniotic fluid volume
  - Intrauterine growth restriction
  - Gestational hypertension severe enough to warrant inpatient monitoring
  - Ruptured membranes
  - Intrauterine fetal demise
  - Previous uterine surgery
  - Patient lives greater than 30 minutes from hospital or does not have reliable transportation
  - Patient unable to understand instructions
  - Attending physician prefers inpatient care

- The patient is instructed to ambulate in hospital for an additional hour (after the initial one hour of observation) and is also required to have an additional normal fetal heart rate strip (20 minutes) before being allowed to go home.

- If an order is given to allow the patient to go home, the following instructions are provided to the patient:
  - Patient should remove Cervidil® and return to hospital if:
    - Labor is achieved
    - Heavy vaginal bleeding is noted
    - Severe abdominal or back pain is noted
  - To return if they notice bleeding, spontaneous rupture of membranes, regular contractions (q5 minutes), decreased fetal movement or if analgesia is required.
  - May shower, not bathe.
  - Patient should return to the hospital if the Cervidil® falls out or greater than or equal to 18 – 24 hours post insertion if awake.

5.1.6 If the patient does not go into active labour and a subsequent induction and/or ripening agent is ordered, including artificial rupture of membranes, it may be initiated once Cervidil® is removed.

Removal directions

5.1.7 Cervidil® should be removed for the following reasons:
- Tachysystole with atypical/abnormal fetal heart rate pattern
- Spontaneous rupture of membranes
- Active labour
- 12-24 hours post insertion
- Evidence of atypical/abnormal electronic fetal heart rate pattern
5.2. **Prostin ® (Dinoprostone 2mg/2.5mL) Gel**

5.2.1 May be administered by a physician, resident, registered midwife or registered nurse with specific training in prostaglandin insertion. If a resident or registered nurse will be placing the gel, they must discuss the plan with the attending physician before insertion. If the midwife is administering the product they must have an order from the consulting physician.

5.2.2 Administer Prostin ® gel into the posterior fornix of the vagina

Post insertion directions

5.2.3 Continuous electronic fetal monitoring including assessment of uterine activity should be carried out for 1 hour following insertion. Assess and record fetal heart rate and uterine activity every 15 minutes during that hour.

5.2.4 If the fetal heart rate pattern remains normal (see Appendix (F) and the patient is not in labour after the initial 1 hour of observation, continuous electronic fetal monitoring may be discontinued. The decision will be made by the attending physician whether the patient can go home on a pass (see criteria in box below) with follow up instructions or whether they will remain an inpatient.

**For INpatient use:**
- If the patient remains an inpatient, a 20 minute electronic fetal monitoring strip must be recorded every 4 hours and contractions clinically assessed, while Prostin® in situ. Additional fetal monitoring may be ordered upon physician request.
- After the initial 1 hour of observation, the patient may ambulate and shower. The patient is to inform nursing staff of the following:
  - Regular contractions
  - Spontaneous rupture of membranes
- Once actively labouring, refer to the intrapartum fetal surveillance guideline for monitoring instructions.

**For OUTpatient use:**
- A patient may go home following appropriate monitoring after Prostin® depending on the physician’s preference. An order from the attending physician is required to allow an outpatient pass as well as a normal fetal heart rate strip (20 minutes) that has been discussed with the attending physician and documented normal maternal vital signs.
- If an order is given to allow the patient to go home, the following instructions will be provided:
  - To return if bleeding, spontaneous rupture of membranes, regular contractions (q5 minutes), decreased fetal movement or if analgesia is required.
  - May shower, not bathe.
  - Patient to receive patient instructions for Going Home with Prostin®.

5.2.5 If the patient does not go into active labour and a subsequent induction agent and/or ripening agent is ordered, including ARM, it may be initiated 6 hours after Prostin® administration.
5.3. Vaginal Misoprostol (PGE₁) tablet for cervical ripening

5.3.1 To be administered by the physician, resident, or midwife only. If a midwife is administering the product they must have an order from the consultant physician.

NOTE: The preparation of Misoprostol requires a 2 person check.

5.3.2 Administer single 50 mcg dose (sourced as a misoprostol 50 mcg vaginal suppository) into the posterior fornix with minimal lubrication so medication is not absorbed by the lubricant thereby decreasing its bioavailability.

5.3.3 For inpatient use only.

NOTE: A single repeat dose of misoprostol 50 mcg for cervical ripening may be given after 6 hours provided that the Bishop score is still less than or equal to 6 AND that there is no uterine activity.

Post insertion instructions:

5.3.4 Patient may ambulate for 2 hours after administration. At 2 hours post-insertion, continuous electronic fetal monitoring including assessment of uterine activity should be carried out for 1 hour. Assess and record fetal heart rate and uterine activity every 15 minutes during that hour. This practice differs from the PGE₂ because clinical response for Misoprostol peaks 3 hours after vaginal insertion.

5.3.5 Once actively labouring, refer to intrapartum fetal surveillance guideline for monitoring instructions.

5.3.6 Oxytocin induction may be initiated 6 hours after Misoprostol administration if ordered and the patient is not in labour.

5.4. Single Balloon Catheter

5.4.1 To be inserted by a physician, resident, or midwife only. If a midwife is administering the product they must have an order from the consultant physician.

5.4.2 Place the patient in a lithotomy position.

5.4.3 Introduce a 16, 18 or 20 sized French indwelling urinary catheter with a 30mL balloon under sterile technique into the intracervical canal ensuring the bulb is above the internal os. This can be done either by direct visualization (using a sterile speculum) or digitally.

5.4.4 Inflate the balloon with 30 to 80mL of sterile water.

5.4.5 Tape the indwelling urinary catheter hub to the inner thigh (taping with tension is not required).

Post insertion instructions

5.4.6 Continuous electronic fetal monitoring including assessment of uterine activity should be carried out for 1 hour following insertion of a single balloon catheter. Assess and record fetal heart rate and uterine activity every 15 minutes during that hour.

5.4.7 If fetal heart rate pattern remains normal (see Appendix F) and the patient is not in labour after the initial 1 hour of observation, continuous electronic fetal monitoring may be discontinued. The decision will be made by the attending physician whether the patient can go home on a pass (see criteria in box below) with follow up instructions or whether they will remain an inpatient.
For INpatient use:

- If the patient remains an inpatient, the fetal heart rate will be auscultated every 4 hours.
- After the initial 1 hour of observation, the patient may ambulate and shower. The patient is instructed to inform nursing staff of the following:
  - Regular contractions
  - Spontaneous rupture of membranes
- Once actively labouring, refer the intrapartum fetal surveillance guideline for monitoring instructions

For OUTpatient use:

- If the decision is made that a patient may go home following insertion and appropriate monitoring, an attending physician’s order is required. They are then required have a normal electronic fetal monitoring strip that has been discussed with the attending physician, and normal maternal vital signs before allowing them to go home.
- If an order is given to allow the patient to go home, the following instruction will be provided:
  - To return if they notice bleeding, spontaneous rupture of membranes, regular contractions (q5 minutes), decreased fetal movement or if analgesia is required.
  - May shower, not bath
  - If the catheter falls out while at home, note the time it fell out and go back to sleep/continue with activities.
  - Return to the obstetrical triage/perinatal assessment unit when called for oxytocin induction or at 24 hours post insertion.
- Patient to receive written instructions prior to being discharged

5.4.8 If the patient does not go into active labour and oxytocin induction is ordered, it may be initiated when the single balloon catheter has been removed.

Removal instructions

5.4.9 May be removed by a nurse, physician or resident.
5.4.10 Apply gentle traction to the single balloon catheter, this often hourglasses the balloon through the cervix leaving it about 3 cm dilated.
5.4.11 Deflate the balloon as required to remove.
5.4.12 Document time of removal on the Integrated Progress Note (IPN) record at Health Sciences Centre or Nurses Notes at St. Boniface Hospital.

5.5. Oxytocin


5.5.2 Provide continuous electronic fetal monitoring (EFM) during oxytocin titration or augmentation (see Appendix B). Assess and document as per fetal surveillance guidelines.
5.5.3 Consider a combination of continuous EFM and intermittent auscultation (IA) during oxytocin induction of labour when an unchanged dose of oxytocin has been achieved for
one (1) hour AND there are no maternal or fetal risk factors that require continuous fetal monitoring.

5.5.4 Assess and document contraction pattern and intensity prior to each dosage increase, and every 15-30 minutes.

5.5.5 Maternal vital signs can be assessed and recorded q2 hours if within normal limits or as maternal condition dictates.

5.5.6 If an Intrauterine Pressure Catheter (IUPC) is in use:
   • Peak intrauterine pressures (IUP) should be between 40-80 mmHg.
   • Baseline pressures (resting tone) are 5-25 mmHg.

Note: Validate uterine resting tone by palpation between contractions; should feel soft.

5.5.7 Document the following additional information during the oxytocin infusion:
   • Time oxytocin was initiated on the Labour Record/ Birth Summary (for augmentation only)/ Fetal Monitor Strip.
   • Increases, decreases, or discontinuation in the rate of oxytocin infusion on the Labour Record and fetal monitor strip.
   • Time of oxytocin initiation and all bag changes in the Medication Administration Record (MAR) or Electronic patient record (EPR).
   • Fluid intake and output on the “Fluid Balance” sheet.
   • Plot progress on partogram once in active labour.

5.5.8 When labour is established continue oxytocin at the minimum level required to achieve an adequate contraction pattern and progressive cervical dilatation.

5.5.9 If tachysytole with a normal fetal tracing occurs, consider decreasing the oxytocin rate.

5.5.10 If intrauterine resuscitation (see Appendix G) is successful and oxytocin has been discontinued for less than or equal to 30 minutes, oxytocin may be restarted at ½ the last dose. If Oxytocin has been discontinued for greater than 30 minutes it must be restarted at the initial dose.

5.6. Titrated Oral Misoprostol for Induction of Labour

5.6.1 As per the WRHA safe handling of medications (cytotoxic and non-cytotoxic) 110.160.010 http://home.wrha.mb.ca/corp/policy/files/110.160.010.pdf, exam gloves are to be worn while handling misoprostol.

NOTE: The preparation of Misoprostol requires a 2 person check.

5.6.2 Dissolve 100 mcg of Misoprostol in 20 mL of lukewarm water of (final concentration is 5mcg/ml). Appendix D (Oral Misoprostol Dissolve and Dose instructions).

5.6.3 Discard the appropriate amount of misoprostol solution from the oral syringe until the required amount of misoprostol solution remains in the oral syringe. Give the misoprostol solution to the patient to drink every 2 hours.

5.6.4 Using the dosing protocol for induction of labour with misoprostol (Appendix C) initiate and titrate the dosage until active labour is achieved (contractions every 3-5 minutes of sufficient strength to cause cervical dilatation and/or effacement).

5.6.5 Decrease misoprostol dose to 20mcg every 2 hours once active labour has been achieved and continue administration until delivery.
5.6.6 The physician may consider titrating the dose of misoprostol every 2 hours (as per protocol) if contractions subsequently decrease in frequency and/or intensity until active labour is once again achieved. Alternatively, the physician may decide to maintain the most recent dose of misoprostol until delivery (an order to this effect is required).

5.6.7 Maternal vital signs may be assessed and recorded q2 hours if within normal limits or as maternal condition dictates.

5.6.8 Monitor the fetal heart pattern and contractions with continuous electronic fetal monitoring.

5.7. Vaginal Misoprostol for Induction of Labour of Fetal Death

5.7.1 To be administered by the physician, resident, registered midwife, or registered nurse who has received specific training. If the midwife is administering the product they must have an order from the consulting physician.

5.7.2 Administer the designated dosage of Misoprostol (see Appendix E) into the posterior fornix with minimal lubricant as the medication is absorbed into the lubricant therefore decreasing its bioavailability.

5.7.3 For inpatient use only.

5.7.4 Vital signs every 4 hours including uterine activity. Once in active labour or rupture of membranes (ROM) vital signs including uterine activity every hour.

6. REFERENCES:


7. **RESOURCES:**

(2) London Health Sciences Centre (2012). Guideline for the use of cervidil and foley catheter for cervical preparation and/or induction of labour.
(3) MORE (2013). Induction of labour.

8. **PRIMARY AUTHOR(S)**

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(4) deb Robinson
APPENDIX A: Modified Bishop Scoring System

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## APPENDIX B

### Oxytocin Titration Table

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<th>Fluid Restriction Table: 20 units in 500mL NS</th>
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* Prescriber reassessment required

* Indicates dose increments as outlined in the WRHA procedure

Low dose protocol: start at 0.33 μg/min or 1 μg/min and increase rate by 1 to 2 μg/min at 30 minute intervals or until active labour is achieved

* Indicates standard dose protocol: start at 1 μg/min and increase rate by 2 to 4 μg/min (follow shaded area) at 30 minute intervals or until active labour is achieved
### APPENDIX C

**Dosing Procedure for Induction of Labour with Titrated Oral Misoprostol**

<table>
<thead>
<tr>
<th>Time/Progress Marker</th>
<th>Dose</th>
<th>Route</th>
</tr>
</thead>
<tbody>
<tr>
<td>First dose after admission</td>
<td>20 mcg (4 mL drink)</td>
<td>Oral</td>
</tr>
<tr>
<td>After 2 hour</td>
<td>20 mcg (4 mL drink)</td>
<td>Oral</td>
</tr>
<tr>
<td>After 4 hour</td>
<td>20 mcg (4 mL drink)</td>
<td>Oral</td>
</tr>
<tr>
<td>After 6 hour</td>
<td>20 mcg (4 mL drink)</td>
<td>Oral</td>
</tr>
<tr>
<td>After 8 hour</td>
<td>30 mcg (6 mL drink)</td>
<td>Oral</td>
</tr>
<tr>
<td>After 10 hour</td>
<td>30 mcg (6 mL drink)</td>
<td>Oral</td>
</tr>
<tr>
<td>After 12 hour</td>
<td>30 mcg (6 mL drink)</td>
<td>Oral</td>
</tr>
<tr>
<td>After 14 hour</td>
<td>30 mcg (6 mL drink)</td>
<td>Oral</td>
</tr>
<tr>
<td>After 16 hour</td>
<td>40 mcg (8 mL drink)</td>
<td>Oral</td>
</tr>
<tr>
<td>After 18 hour</td>
<td>40 mcg (8 mL drink)</td>
<td>Oral</td>
</tr>
<tr>
<td>After 20 hour</td>
<td>40 mcg (8 mL drink)</td>
<td>Oral</td>
</tr>
</tbody>
</table>

Dissolve 100 mcg of Misoprostol in 20 mL of water = final concentration 5 mcg/ml

If not in labour after 3rd dose of 40 mcg, stop titrated oral misoprostol induction

1. Decrease Misoprostol dose to 20mcg every 2 hours once active labour has been achieved and continue administration until delivery (default). Alternatively, a physician may order the most recent dose of misoprostol be maintained until delivery.

2. If contractions subsequently decrease in frequency and/or intensity the physician may consider increasing the dose of Misoprostol (as per protocol) until progress in labour is once again achieved.
APPENDIX D

Oral Misoprostol Dissolve and Dose Instructions for 100 mcg tablet

Supplies needed:
- Misoprostol 100 mcg
- Oral syringe 30 mL size with cap (do not use sterile parenteral syringe)
- 20 ml water (tap, distilled or sterile)

Procedure

Administer appropriate dose of medication immediately after preparation

1) Lay out a blue pad to contain any spillage that may occur during mixing.
2) Remove the plunger from the oral syringe.
3) Ensure the tip of the syringe is capped.
4) Don exam gloves.
5) Drop the tablet directly into the syringe. Do not crush.
6) Reinsert the plunger in the syringe barrel.
   Note: you may need to loosen the cap to allow air to exit the syringe
7) Remove the syringe cap and draw up exactly 20 mL of water into the oral syringe.
8) Draw up extra air into the syringe.
9) Cap the syringe and allow the medication to disintegrate over 3-5 minutes. Shake the syringe a few times during this period until no large particles of medication remain in the syringe. The medication may not completely dissolve and a fine powder may be present in the syringe but you may still give the medicine.
10) Remove the cap.
11) Discard the unneeded misoprostol solution into the pharmaceutical waste container until only the required amount of misoprostol solution remains in the syringe.
12) Recap the syringe.
13) Label the syringe as per site/facility requirements (e.g. drug name, patient name, dose, etc.).
14) Shake the syringe well immediately prior to administering the dose.
15) Remove the cap from the syringe.
16) Give the misoprostol solution to the patient to drink.
17) Recap the syringe.
18) Exam gloves and syringe may be discarded into the regular garbage.
### APPENDIX E:

**Vaginal Misoprostol Dosing Options for Perinatal Loss**

<table>
<thead>
<tr>
<th>Gestation (based on size of uterus)</th>
<th>15-25 +6 weeks</th>
<th>26-29 +6 weeks</th>
<th>30-35+6 weeks</th>
<th>36 weeks and greater</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doses</td>
<td>400-800mcg</td>
<td>100 - 200 mcg</td>
<td>50-100mcg</td>
<td>50 mcg</td>
</tr>
<tr>
<td>Route is <strong>vaginal</strong></td>
<td>Max 4 doses</td>
<td>Max 4 doses</td>
<td>Max 4 doses</td>
<td>Max 4 doses</td>
</tr>
<tr>
<td>Interval (until the fetus has passed)</td>
<td>Q4-6 h</td>
<td>Q4h</td>
<td>Q4h</td>
<td>Q4h</td>
</tr>
</tbody>
</table>
### APPENDIX F: Classification of EFM Tracings

<table>
<thead>
<tr>
<th></th>
<th>Normal Tracing Previously “Reassuring”</th>
<th>Atypical Tracing Previously “Non-Reassuring”</th>
<th>Abnormal Tracing Previously “Non-Reassuring”</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Baseline</strong></td>
<td>110-160 bpm</td>
<td>Bradycardia 100-110 bpm</td>
<td>Bradycardia &lt; 100 bpm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tachycardia &gt; 160 bpm for 30 min to &lt;80 min.</td>
<td>Tachycardia &gt; 160 for &gt; 80 min.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rising baseline</td>
<td>Erratic baseline</td>
</tr>
<tr>
<td><strong>Variability</strong></td>
<td>6-25 bpm</td>
<td>≤ 5 bpm for 40-80 min.</td>
<td>≤ 5 for &gt; 80 min.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>≥ 25 bpm &gt; 10 min.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Sinusoidal</td>
</tr>
<tr>
<td><strong>Decelerations</strong></td>
<td>None or occasional uncomplicated variables or early decelerations</td>
<td>Repetitive (≥3) uncomplicated variable decelerations</td>
<td>Repetitive (≥3) complicated variables: - deceleration to &lt;70 bpm for &gt;60 secs. - loss of variability in trough or in baseline - biphasic decelerations - overshoots - slow return to baseline - baseline lower after deceleration - baseline tachycardia or bradycardia Late decelerations &gt; 50% of contractions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Occasional late decelerations</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Single prolonged decelerations &gt;2 min. but &lt;3 min</td>
<td>Repetitive (≥3) complicated variables: - deceleration to &lt;70 bpm for &gt;60 secs. - loss of variability in trough or in baseline - biphasic decelerations - overshoots - slow return to baseline - baseline lower after deceleration - baseline tachycardia or bradycardia Late decelerations &gt; 50% of contractions</td>
</tr>
<tr>
<td><strong>Accelerations</strong></td>
<td>Spontaneous accelerations present</td>
<td>Absence of acceleration with fetal scalp simulation</td>
<td>* usually absent</td>
</tr>
<tr>
<td></td>
<td>FHR increases &gt;15 bpm lasting &gt;15 sec ( &lt;32 weeks’ gestation increase in the FHR &gt;10 bpm lasting &gt;10 seconds)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Accelerations resent with fetal scalp stimulation</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ACTION</strong></td>
<td>EFM may be interrupted for periods up to 30 min. if maternal-fetal condition stable and/or oxytocin infusion rate stable</td>
<td>Further vigilant assessment required, especially when combined features present.</td>
<td>ACTION REQUIRED</td>
</tr>
<tr>
<td></td>
<td>ACTION REQUIRED</td>
<td>Review overall clinical situation, obtain scalp pH if appropriate/prepare for delivery</td>
<td></td>
</tr>
</tbody>
</table>

*usually absent, but if accelerations are present, this does not change the classification of tracing.

Liston, R., Sawchuck, D., Young, D. Fetal Health Surveillance: Antepartum and Intrapartum Consensus Guideline: JOGC 2007. 29 (9 Table 5 S9): S3-44.
APPENDIX G
Management of Tachysystole with an Abnormal Fetal Heart Rate Pattern

- Call the charge nurse.
- Immediately notify the obstetrical care provider on call, and document communication in the IPN or Nurses’ notes.
- Consider Nitroglycerin (spray or sublingual tabs) when required and ordered by the physician (See Appendix F).
- Remove Cervidil® vaginal insert if in situ.
- Stop Oxytocin.
- Turn the patient to a lateral position.
- Improve hydration with an IV bolus (if needed).
- Perform a vaginal exam to assess progress, and diagnose/manage cord prolapse if present.
- Prepare the patient for an emergency cesarean section if required

Note: When an abnormal tracing is apparent attempts at intrauterine resuscitation continue while the attending obstetrical provider/senior resident is called to review the overall clinical situation, consider obtaining scalp pH/lactate (if appropriate), and prepare for delivery.

APPENDIX H: Nitroglycerin Sublingual Spray

Rho-Nitro Pump Spray 0.4 mg per metered dose

Dosage: At onset of tachysystole with abnormal fetal heart rate pattern or loss of soft resting tone, spray 1 or 2 metered doses onto or under the tongue WITHOUT INHALING.

The optimal dose may be repeated twice at 5-10 minute intervals.
Administer at rest, ideally in the sitting position.
As per distributor’s directions Sandoz Canada, Inc. Laval, Quebec.

OR

Nitroglycerin 0.6 mg SUBlingual once for uterine hyperstimulation during Prostin or Cervidil use