Induction of Labour: Management of the patient with dinoprostone (Cervidil) Vaginal Insert

Site Applicability

All VCH & PHC sites with planned maternity care

Practice Level

Designation	Basic Skill	Advanced Skill *(requiring additional education)*
RN	With advanced education in perinatal nursing where the following are core competencies and expectations of the role: • Assessment and management	**SPH only:** Specialized education in administration/ insertion of Dinoprostone with an order • Administration
RM (Registered Midwife)	With specialized practice certification as outlined by College of Midwives BC (CMBC) • Administration, assessment & management	
Physician	With maternity privileges (includes OB/GYNs and GPs) • Administration, assessment & management	

Policy Statement

- Only RNs who have received training at St. Paul's Hospital (SPH) can perform the administration of dinoprostone (Cervidil) vaginal insert.
- Other perinatal RNs are limited to assessment and management of patients receiving dinoprostone (Cervidil) vaginal insert for induction of labour.

Need to Know

The aim is to standardize the safe administration and management of dinoprostone (Cervidil) vaginal insert when used for labour to achieve positive maternal and fetal outcomes.

Dinoprostone 10 mg (Cervidil) vaginal insert is used as a method of ripening the cervix in preparation for labour and/or inducing labour. Dinoprostone (Cervidil) is administered by placing one unit transversely in the posterior fornix of the vagina immediately after removal from its foil package.

Benefits:

- Prostaglandin can be used as a method of cervical ripening or induction. Cervical ripening with prostaglandin is more effective than oxytocin and as effective as mechanical methods.
- Induction is more successful with prostaglandin. Prostaglandin results in higher chances of delivery when used as a method of induction.
- A string is present for quick removal if there is uterine hyperstimulation.

Risks:

- Prostaglandin has a higher risk of uterine rupture in Vaginal Birth after Caesarean Section (VBAC).
- Hyperstimulation may occur.
- Some women will have systemic side effects from prostaglandin administration (e.g. increase in asthma symptoms).

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In Preparation:

- Induction with oxytocin must not begin for at least 30 minutes after dinoprostone (Cervidil) vaginal insert has been removed.
- The RN who is caring for the woman who has received this medication must be aware of the physiological effects of prostaglandins both systemically and locally in order to anticipate and manage the possible side effects.
- Patients induced with dinoprostone (Cervidil) are admitted as outpatients unless otherwise notified. If a dinoprostone (Cervidil) Induction of Labour is delayed:
  - Non Stress Test must be done.
  - Primary care provider must be informed.
- Nitroglycerin Sublingual spray should be available. A written physician/midwife order is required if administration of nitroglycerin sublingual spray (tocolytic) is required.

The following physicians can order dinoprostone (Cervidil):

- Obstetrician
- Senior Obstetrical Resident
- Family Physician
- Registered Midwives (with specialized certification)

The following may administer dinoprostone (Cervidil)

- Obstetricians
- Family Physicians
- Senior Obstetrical Residents
- Registered Midwives
- **SPH Only:** Registered Nurses who have been trained to insert
- Junior Residents who have been trained to insert

Equipment & Supplies

- Electronic Fetal Monitor
- **dinoprostone (Cervidil)**

Practice Guideline

Assessment:

1. Initial:

   Prior to initiation of induction of labour (IOL) assess and record the following:
   - Review prenatal record, pregnancy and medical history to identify risk factors
   - Ensure the indication for induction of labour is documented (See SOGC Induction of Labour Guideline for indications)
   - **Pre-dinoprostone (Cervidil)** Non Stress Test, classified normal
   - Assess maternal vital signs
   - Note maternal height and weight (Perinatal Triage and Assessment Record)
   - Assess fetal lie, position, presentation, size
   - Provider to assess and document cervical condition (Bishop's Score)
     - Dilatation of cervix (cm)
     - Position of cervix in the vagina
     - Consistency of cervix
     - Length of cervix
     - Station of presenting part

2. Ongoing:
   - Continuous assessment of fetal movement and well-being (continuous EFM - see interventions)
   - Assess uterine activity by palpation and tocodynamometer
   - Assess maternal vital signs
   - Document time of **dinoprostone (Cervidil)** insertion and lot number
   - Check for side effects
   - If removed, document time and effect
   - If repeat **dinoprostone (Cervidil)** placement, document **dinoprostone (Cervidil)** number

Interventions:

1. Initial and ongoing:
   - Initiate electronic fetal monitoring (EFM) for 20 to 30 minutes prior to insertion of the **dinoprostone (Cervidil)**.
   - Keep woman NPO for one hour following insertion of medication.
   - Position woman on her left side or wedged to left side -- ensure that she remains on bed rest for one hour following placement of medication.
   - Continue EFM for at least one hour following medication administration. Do not discontinue EFM until tracing has been normal for at least 20 minutes.
   - Palpate uterine activity.
   - Remain continuously at bedside until EFM tracing is classified as normal for a minimum of 20 minutes. Thereafter, assess continuous EFM tracing every 15 minutes until discontinued.
   - Remove **dinoprostone (Cervidil)** when in established labour, or in the presence of uterine hyperstimulation and/or abnormal fetal heart rate.

2. If uterine tachysystole:
   (Definition: more than 5 contractions per 10 minute period averaged over 30 minutes) with no heart rate changes)
   - Reposition on left side with head of bed flat or lowered.
   - Initiate IV therapy - Normal Saline or ordered IV fluid via #18 IV cannula.
   - Notify Obstetrician and/or Senior Resident STAT.
   - Notify Primary Care Provider (if able).
   - Obtain blood samples for CBC, type and screen (if ordered).
   - Prepare for administration of tocolytic as ordered by provider (Nitroglycerin sublingual spray - see Appendix B).
   - Maintain continuous EFM or restart if EFM was previously discontinued.

   If uterine tachysystole with heart rate changes i.e. atypical/abnormal fetal heart rate pattern occurs - bradycardia, complicated variable decelerations, prolonged deceleration – notify Primary Care Provider, remove the **dinoprostone (Cervidil)** and prepare for possible urgent cesarean section – see Code Pink.

In-Patient Induction:

After initial assessment, frequency of assessments and interventions are based on indication for induction. Examples – hypertension, Intrauterine Growth Restriction (IUGR), cholestasis.

Discharge Criteria:

*The Primary Care Provider who is responsible for the induction will determine if the patient is appropriate for discharge or requires admission.

Discharge patient after one hour if:

- Normal FHR pattern

- Absence of regular cramps, pressure, and/or painful contractions
- Absence of risk factors
- Instructions regarding return to Maternity Centre are reviewed with patient

*If the woman has not gone into spontaneous labour after 12 to 24 hours, contact the obstetrician/attending physician for further instructions.

Patient Education

- Review handout "Cervidil Vaginal Insert for Induction of Labour" (SPH)
- Confirm the patient understands the reason for induction.
- Explain the procedure.
- Explain the need for electronic fetal monitoring, bed rest, and NPO for one-hour post medication administration.
- Explain the possible side effects.
- Explain the expected effects of the medication and possibilities of needing repeat doses.
- Explain the process of labour.
- Inform the woman when to call and/or return to the hospital – pain, SROM, contractions, decreased/absent fetal movements provide print material or refer to http://parenting.vch.ca/pregnancy/labour-and-birth/

Documentation

- BC Perinatal Triage and Assessment Record (PSBC form 1590)
- Maternal Fetal Assessment Interdisciplinary Progress Notes
- BC Antenatal Part 1 and Part 2 (PSBC form 1582)
- Induction of Labour Booking Form if applicable
- BC Labour Partogram (PSBC form 1583)
- Non Stress Test tracing
- Electronic Fetal Monitor tracing

Related Documents

VCH: Code Pink – Obstetrical Emergency (D-00-12-30011)

PHC:

- Caesarean Section Urgent and Emergency; Patient Preparation (NCS5204)
- Fetal Health Surveillance - Intrapartum (IDG1131)

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Appendix A: Indications for use of dinoprostone (Cervidil)

Initiation and/or continuation of cervical ripening in patients at or post term when there is a medical or obstetrical indication for the induction of labour.

Contraindications to labour or vaginal delivery including: (from SOGC Induction of Labour Guideline for indications)

- Placenta or vasa previa or cord presentation
- Abnormal fetal lie or presentation
- Prior classical or inverted T uterine incision
- Significant prior uterine surgery
- Active genital herpes
- Pelvic structural deformities
- Invasive cervical carcinoma
- Previous uterine rupture

Contraindications for use of **dinoprostone (Cervidil)**: (from http://www.cervidil.com/hcp/important-safety-information)

- Patients with known hypersensitivity to prostaglandins
- Patients in whom there is a clinical suspicion or definitive evidence of fetal distress where delivery is not imminent
- Patients with unexplained vaginal bleeding during this pregnancy
- Patients in whom there is evidence or strong suspicion of marked cephalopelvic disproportion
- Patients in whom oxytocic drugs are contraindicated or when prolonged contraction of the uterus may be detrimental to fetal safety or uterine integrity, such as previous cesarean section or uterine surgery (given the potential risk for uterine rupture and associated obstetrical complications, including the need for hysterectomy and the occurrence of fetal or neonatal death)
- Patients already receiving intravenous oxytocic drugs
- Multipara with 6 or more previous term pregnancies

Cautions – from PSBC Cervical Ripening and Induction of labour guideline

- Overdistension of uterus (multiple pregnancy, polyhydramnios)*
- Fetal malpresentation
- History of asthma, glaucoma or epilepsy
- Grandmultiparity
- Clinical evidence of fetal compromise
- Unexplained vaginal bleeding
- Rupture of membranes – vaginal prostaglandin can be used with ROM. Caution is recommended with intracervical prostaglandins.

* At the discretion of the attending obstetrician.

Appendix B: Nitroglycerin Sublingual Spray in Maternity Centre**

Indication for use:	• See Interventions #2 and #3 Tachysystole with or without atypical or abnormal fetal heart rate pattern.
Dosage:	• 0.4 mg per spray • Usual dose is 1 to 2 sprays.
Precautions:	• Do NOT inhale • Avoid swallowing after spray • Do not expectorate or rinse mouth for 5 to 10 minutes after use
Administration:	• Do NOT shake container. Prime the spray pump prior to first use or after a period of nonuse by spraying once. • Hold upright and spray directly under tongue as close to open mouth as possible. • Close mouth immediately after each spray • May use every 5 minutes, but not more than 3 sprays in 15 minutes
Side effects:	• Hypotension • Blurred vision • Dry mouth • Nausea, vomiting • Sweating
Assessments and Interventions:	• Position flat tilted to left or on right side • Palpate maternal pulse • Check maternal BP • Maintain continuous EFM • Palpate uterine activity • Ensure IV in situ and infusing • Prepare for C/S if continued abnormal FHS, continued uterine contraction

**Requires written physician order