PROSTAGLANDIN ADMINISTRATION FOR CERVICAL PREPARATION

This LOP is developed to guide clinical practice at the Royal Hospital for Women. Individual patient circumstances may mean that practice diverges from this LOP.

1. AIM
   • Cervical preparation prior to induction of labour

2. PATIENT
   • Woman in whom induction of labour is indicated, where prostaglandin is considered the appropriate method of cervical preparation

3. STAFF
   • Medical and midwifery staff

4. EQUIPMENT
   • Cardiotocography (CTG) equipment
   • Water-based lubricant
   • Sterile gloves
   • Ultrasound machine

5. CLINICAL PRACTICE
   • Arrange nulliparous woman to be admitted by 0900hrs and parous woman by 1400hrs
   • Perform midwifery admission on arrival and medical admission as time permits
   • Take a thorough maternal and fetal history with reference to the clinical notes
   • Confirm the gestation, indication for induction and the absence of any contraindications
   • Prescribe vaginal prostaglandin. This must be ordered by an obstetric consultant or registrar.
   • Give patient information leaflet (Appendix 1)
   • Explain the procedure to woman and her support person. This includes risks/adverse events associated with the use of vaginal prostaglandins
   • Obtain verbal consent and document in the integrated clinical notes
   • Take full maternal observations including urinalysis
   • Perform abdominal palpation including fundal height measurement. Confirm cephalic presentation with ultrasound and document using ultrasound stamp
   • Perform CTG and complete antenatal CTG sticker
   • Perform vaginal examination, following verbal consent, and document in the integrated clinical notes
   • Record Modified Bishop’s Score(MBS) on the stamp in the integrated clinical notes
   • Administer vaginal prostaglandin if:
     o the MBS is <5
     o CTG is reassuring
   • Record 4th hourly fetal heart rate (FHR), uterine activity, vaginal loss and any other observations as clinically indicated. If contractions become more frequent than 1:10, record hourly FHR, uterine activity and vaginal loss

Prostaglandin gel (Prostin®)
   • Give nulliparous woman 2mg in the morning, followed by 1mg six hours later
   • Give parous woman 1mg in the afternoon
   • Insert prostaglandin gel (1mg or 2mg) into the posterior fornix of vagina, avoiding the cervix
   • Perform CTG following insertion of prostaglandin for at least 30 minutes or until reassuring and document on the antenatal CTG sticker
   • Ensure the woman remains in lateral position for 40 minutes to promote uptake of gel
2.

LOCAL OPERATING PROCEDURE

CLINICAL POLICIES, PROCEDURES & GUIDELINES

Approved by Quality & Patient Care Committee
17 August 2017

PROSTAGLANDIN ADMINISTRATION FOR CERVICAL PREPARATION  cont’d

- Reassess the nulliparous woman after six hours to administer the second dose of gel if required.
- Do not administer the second dose of gel if:
  - regular and painful uterine activity
  - ruptured membranes
  - MBS ≥5
  - CTG is non-reassuring
- Inform obstetric consultant/registrar if second dose not given. Reassess if uterine activity settles and consider administering second dose.
- Be aware dosage schedule may vary as per consultant’s request
- Reassess the cervix at 0530hrs (or earlier if clinically indicated) the following morning. If the cervix is favourable for artificial rupture of membranes (ARM) transfer the woman to Delivery Suite
- Review by medical staff if MBS <5, make a plan and document in integrated clinical notes
- Do not commence oxytocin infusion for induction within 6 hours of prostaglandin gel insertion

Prostaglandin pessary (Cervidil ®)
- Insert prostaglandin pessary and position it transversely into posterior fornix of vagina
- Fold excess tape and place at the introitus to permit removal
- Advise the woman to remain in lateral position for 30 minutes to allow uptake of prostaglandin and for pessary to swell
- Monitor and document uterine activity and vaginal loss hourly
- Recomence the CTG if regular uterine activity occurs and document on the antenatal CTG sticker
- Cease CTG when reassuring and commence intermittent auscultation
- Assess the cervix 12 hours after insertion and document MBS in integrated clinical notes
- Remove the pessary at any point if:
  - The cervix is favourable
  - Regular (3:10) painful contractions, associated with cervical change
  - Rupture of membranes
  - Evidence of hyperstimulation or hypertonic uterine activity occur
  - Non-reassuring CTG pattern
  - Adverse maternal response to prostaglandin
  - 18 hours post insertion and at least 30 minutes prior to commencing oxytocin infusion for induction of labour

Management of adverse events

Tachysystole
- Continue or recommence CTG, and administer analgesia if required.
- Consider vaginal examination as per clinical indication and notify medical officer.
- Cease CTG if tachysystole settles and CTG is reassuring

Hyperstimulation/Hypertonus
- Continue or recommence CTG.
- Notify obstetric registrar or PACE if criteria met
- Remove prostaglandin pessary if insitu
- Perform vaginal examination.
- Administer terbutaline 250 mcg subcutaneously (pursuant to standing orders)
- Give analgesia if required
PROSTAGLANDIN ADMINISTRATION FOR CERVICAL PREPARATION  cont’d

6. DOCUMENTATION
   - Integrated clinical notes
   - Antenatal CTG sticker
   - MBS stamp
   - Electronic medication (eMeds)
   - Ultrasound stamp

7. EDUCATIONAL NOTES
   - Contraindications to administration of prostaglandin:
     - Allergy to prostaglandins
     - Major placenta praevia or vasa praevia
     - Previous hysterotomy
     - Previous caesarean section or full thickness uterine surgery (rate of rupture up to 5-6%)
     - Malpresentation
     - History of severe asthma, glaucoma, cardiovascular, hepatic or renal disease
   - Prostaglandin gel or pessary must be administered/supervised by staff member capable of performing vaginal examination competently. They must have been educated in the care and management of an adverse event following insertion of prostaglandin.
   - Prostaglandin gel or pessary may be prescribed by a consultant obstetrician or an obstetric registrar who has written permission to do so from the Director of Obstetrics. Resident medical officer (RMO’s) are not allowed to prescribe prostaglandin gel or pessary
   - Prostaglandin can cause uterine activity without cervical changes and analgesia may be required
   - Prostaglandin gel or pessary may be given to woman with grand multiparity, or unexplained antepartum haemorrhage (APH) after review by senior obstetric registrar or obstetric consultant.
   - Prostaglandin gel may be given to woman with ruptured membranes after review by senior obstetric registrar or obstetric consultant
   - Prostaglandin pessary is not suitable for use with ruptured membranes
   - Adverse events or side effects could include:
     - Uterine hyperstimulation
     - Hypertonic uterine activity
     - Non-reassuring/abnormal/pathological FHR pattern
     - Placental abruption
     - Hypertension
     - Allergic reaction
     - Vaginal irritation/burning
     - Dyspnoea
   - Costs (July 2017):
     - Cervidil® pessary $166 – only one dose needed over 18 hours
     - Prostin® gel 1mg $ 54
     - Prostin® gel 2mg $ 68
     - 1-3 doses of Prostin® may be needed with associated increased ancillary costs e.g. clinical time required from midwife, more frequent CTGs
   - There is no evidence which suggests an optimal timing of doses, but surveys suggest women’s satisfaction is improved with adequate rest between doses of prostaglandin gel
   - Cervidil® pessary contains 10mg of dinoprostone which is released at the rate of 0.3mg per hour for a period of 12 hours. Release rate is dependent on vaginal pH and is equivalent to prostaglandin gel of 2mg every 6 hours.
   - Administration of prostaglandin would be normally undertaken in antenatal ward. However, if continuous monitoring is required due to maternal or fetal compromise, these women are to be cared for in Delivery Suite.
   - Hyperstimulation/hypertonus occurs in 4-5% of women
PROSTAGLANDIN ADMINISTRATION FOR CERVICAL PREPARATION cont’d

8. RELATED POLICIES / PROCEDURES / CLINICAL PRACTICE LOP
   - Induction of labour for woman with a low risk post-dates pregnancy
   - Induction of Labour Policy and Procedure
   - Terbutaline (Bricanyl) - Subcutaneous Injection for uterine hypertonus or acute fetal distress
   - Postdates - Management of pregnancy beyond 41 weeks gestation
   - Cardiotocography (CTG) – antenatal
   - Vaginal examination in labour

9. RISK RATING
   - High

10. NATIONAL STANDARD
   - CC – Comprehensive Care

11. REFERENCES

REVISION & APPROVAL HISTORY
Reviewed and endorsed Maternity Services LOPs group June 2017
Replaced:
Administration of prostaglandin for cervical ripening/induction of labour
Approved 17 November 2003
Reviewed and endorsed Maternity Services Clinical Committee 11/11/03
Approved Quality Council 17/3/03
Reviewed and endorsed Maternity Services Clinical Committee 11/3/03
Reviewed November 2003
Reviewed and endorsed Maternity Services Clinical Committee 8/3/05

FOR REVIEW : AUGUST 2019

…Appendix 1
Induction of labour
Delivery suite phone number: 02 9382 6100 (24 hours a day)

If your labour has not started on its own by the time you are between 41-42 weeks pregnant, or if there is a medical reason to bring labour on, you will be offered an induction. Your midwife or doctor will discuss the reason(s) with you. You always have the choice to wait for labour to start on its own, but need to be aware of the possible risks to you and/or your baby of both options, so you can decide what is best for you both. Although this may not be how you thought your labour would start, we will try to help you follow your birth plan as much as possible.

A vaginal examination will be done before booking your induction to check how open or 'ready' your cervix is. When a cervix is 'ready' for labour it is soft and short, and the bag of waters (membranes) below the baby's head can be touched. Usually, the more your cervix is 'ready', the easier it will be to start your labour.

**IF YOUR CERVIX IS NOT READY**
You will need to come into hospital the day before your booked induction date to have either a catheter inserted through the cervix, or prostaglandin hormone gel or pessary (a vaginal tablet attached to a tape) placed in the upper vagina to help make the cervix ready for labour:

- **Catheter insertion:** A soft plastic catheter (tube) is placed through the cervix and a small balloon at the tip is inflated with sterile water. The catheter tube is taped to your leg and it is important not to loosen this tape. The pressure of the catheter on the cervix is what helps it get ready for labour. The catheter usually falls out once the cervix is ready. Most women stay in hospital overnight, although some women may be given the option to go home until the next morning. If the catheter doesn’t fall out, it will be removed the morning after it was put in.

- **Prostaglandin hormone:** Prostaglandin gel or pessary is inserted into the vagina. Sometimes more than one dose of the gel is needed, especially if this is your first labour. You will need to stay in hospital overnight. A few women do go into labour after the insertion of the prostaglandin.

You will go to the Delivery Suite for the labour and birth the following morning if your cervix is ready. A few women need more than one of the methods to make their cervix ready, which usually means an extra day spent in hospital before your labour starts.

**IF YOUR CERVIX IS READY**
You will be able to stay at home the night before. You will be asked to call your midwife or Delivery Suite at 06:00am on the morning of your booked induction to check if a room is available. If the Delivery Suite is very busy we will call you when we have a room for you.

**ONCE YOUR CERVIX IS READY**
- When you come to Delivery Suite, the induction will be started by breaking your waters. This is done during a vaginal examination, by using a small piece of plastic to break the membrane below your baby's head. The baby does not feel any pain. You may feel some discomfort from the vaginal examination and feel the waters flowing out. Some women go into labour after having their waters broken, but many do not and will need an oxytocin drip to start labour.

- **The oxytocin drip** is started very slowly, and increases gradually until you are contracting well and the cervix starts to open.

- Your baby's heart rate will be monitored closely, together with the contractions. We use a machine known as Cardiotocograph (CTG) monitor. This requires two elastic straps around your abdomen. You will usually be able to move around the room or use the shower as we have wireless CTGs.

If you have any concerns or questions about your pregnancy or planned induction, please talk to your doctor, midwife, or call Delivery Suite on 9382 6100. It is very important you ring the delivery suite if you have any concerns about your baby's movements even if it is the night or day before you are coming in for your induction.
FREQUENTLY ASKED QUESTIONS:

How long do I need to have the CTG monitor on before I am in labour?
If you have the gel, we will leave the CTG on for about 30 minutes after the gel is put in to make sure your baby is OK. If you have the pessary (which gives a slower release) we will put the CTG on for about 30 minutes once you start to have some regular tightenings.

Are there any side effects?
- Hopefully the main side effect will be that your cervix becomes ready for labour!
- Putting the catheter in the cervix will probably be uncomfortable but it is not a drug. Some women have some light bleeding after the catheter has been put in.
- Prostaglandin gel or pessary is a drug and about 4 out of 100 women may have contractions that go for too long, or happen too close together. If this happens, the pessary can be removed and/or a drug can be given to try and reverse this side effect. If these effects do not go away and your baby is not coping, you may need an emergency caesarean.
- Some women have said that they feel sick or have diarrhoea or vomiting with prostaglandins.
- Most women will feel some soreness in the vagina for a while after the prostaglandins have been put in.

Can anyone stay overnight with me before I go to Delivery Suite?
If you are in a shared room, your partner/support person will not be able to stay with you overnight. If you are in a single room, your partner/support person may stay overnight but there is a fee for this which must be paid at the main admissions desk on the ground floor.

How long will it take for my labour to start?
It is hard to know when your labour will start. The more your cervix is ready, the less time it will take. Women having their first baby usually have a longer labour than women who have had a labour before. For most women having their first baby, they will be in hospital for more than 24 hours before labour starts.

How long will my labour be?
The average length of a first labour is 12 hours. This is timed from when active labour begins (regular strong contractions) not from when any mild irregular contractions start. Your second and subsequent labours are usually shorter.

What can I have for pain relief?
This is your choice. You can discuss this with the midwife who is caring for you in labour. Some women use only active birth methods (position changes, massage, heat and water) for the whole of their labour. Others may choose to have some medical pain relief like nitrous oxide (gas), morphine injection or an epidural (local anaesthetic injected into your back). Please ask your doctor or midwife for more information.

Is there anything I can do to encourage my labour to start?
Having a vaginal examination to perform a “stretch and sweep” may help your labour start. Your midwife/doctor inserts 2 fingers through your cervix and makes circular movements to help your body release its own prostaglandin hormone. To work best, a stretch and sweep may need to be done more than once. Please ask your doctor/midwife about this. There have been many other suggestions over the years such as hot curries, sex, acupuncture, raspberry leaf tea and nipple stimulation. Unfortunately, none of these other methods have proven to be effective methods of starting labour. Raspberry leaf tea is not recommended due to lack of evidence about its safety.

When do I come in?
You will be given a date and time to come in. Sometimes this may need to be changed to a different date or time if the hospital is very busy. This is to ensure the best care is given to you and your baby when you are in labour.