HEALTH HOLDING
HAFER ALBATIN HEALTH CLUSTER
MATERNITY AND CHILDREN HOSPITAL

Department:	Obstetrics and Gynecology		
Document:	Multidisciplinary Policy and Procedure		
Title:	Induction of Labor		
Applies To:	All Obstetrics and Gynecology Staff		
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1. PURPOSE:

1.1 To standardize the method of induction of labor with Prostaglandin E2, and if not available , with prostaglandin E1 (misopristol)

2. DEFINITIONS:

2.1 Is the stimulation of uterine contractions during pregnancy before labor begins on its own to achieve a vaginal birth.

3. POLICY:

3.1 Mother should be informed that most women will go into labor spontaneously by 42 weeks. At the 38 week antenatal visit, all women should be offered information about the risks associated with pregnancies that last longer than 42 weeks and their options.

3.2 The decision of induction of labor is taken by the senior physician or treating physician and he/she should explain the following points to women being offered induction of labor:

- 3.2.1 The reasons for induction being offered.
- 3.2.2 When, where and how induction could be carried out.
- 3.2.3 The arrangements for support and pain relief (recognising that women are likely to find induced labor more painful than spontaneous labor).
- 3.2.4 The alternative options if the woman chooses not to have induction of labor.
- 3.2.5 The risks and benefits of induction of labor in specific circumstances and the proposed induction methods.
- 3.2.6 That induction may not be successful and what the woman's options would be.

3.3 The woman should be allowed to discuss the information with her husband before coming to a decision, invite the women to ask questions and encourage her to think about options and support the woman in whatever decision she makes.

3.4 **Prevention of prolonged pregnancy:**

- 3.4.1 Women with uncomplicated pregnancies should be given every opportunity to go into spontaneous labor.
- 3.4.2 Women with uncomplicated pregnancies should usually be offered induction of labor between 41+0 and 42+0 weeks to avoid the risks of prolonged pregnancy. The exact timing should take into account the women's preferences and local circumstances.
- 3.4.3 If a woman chooses not to have induction of labor, her decision should be respected. Healthcare professionals should discuss the woman's care with her from then on.
- 3.4.4 From 42 weeks, women who decline induction of labor should be offered increased antenatal monitoring consisting of atleast twice weekly cardiotocography and ultrasound estimation of maximum amniotic pool.

3.5 **Preterm prelabor rupture of membranes.**

3.5.1 If a woman has preterm prelabor rupture of membranes, induction of labor should not be carried out before 34 weeks unless there are additional obstetric indications (for example, infection or fetal compromise).

3.5.2 If a woman has preterm prelabor rupture of membranes after 34 weeks, the maternity team should discuss the following factors with her before a decision is made about whether to induce labor, using vaginal PGE2 or PGE1.

3.5.2.1 Risks to the women (e.g. sepsis, possible need for caesarean section).

3.5.2.2 Risks to newborn(e.g. sepsis, problems relating to preterm birth).

3.5.2.3 Local availability of neonatal intensive care facilities.

3.6 **Prelabor rupture of membranes at term**

3.6.1 Women with prelabor rupture of membranes at term (at or over 37 weeks) should be offered a choice of induction of labor with PG or expectant management.

3.6.2 Induction of labor is appropriate approximately 24 hours after prelabor rupture of membranes at term.

3.7 **Previous caesarean section**:

3.7.1 If delivery is indicated, women who have had a previous caesarean section may be offered induction of labor with PG, caesarean section or expectant management on an individual basis, taking into account the woman's circumstances and wishes. Mother should be informed of the following risks with induction of labor.

3.7.1.1 Increased risk of need for emergency caesarean section during induced labor.

3.7.1.2 Increased risk of uterine rupture.

3.8 **Maternal request**

3.8.1 Induction of labor should not routinely be offered on maternal request alone. However, under exceptional circumstances (e.g. if the women's husband is soon to be posted abroad in official mission), induction may be considered at or after 40 weeks.

3.9 **Breech presentation**

3.9.1 Induction of labor is not generally recommended if a woman's baby is in the breech presentation.

3.9.2 If external cephalic version is unsuccessful, declined or contraindicated, and the woman chooses not to have an elective caesarean section, induction of labor should be offered, if delivery is indicated, after discussing the associated risks with the women.

3.10 **Fetal growth restriction**

3.10.1 If there is severe fetal growth restriction with confirmed fetal compromise,induction of labor is not recommended.

3.11 **History of precipitate labor**

3.11.1 Induction of labor to avoid a birth unattended by healthcare professionals should not be routinely offered to women with a history of precipitate labor.

3.12 **Intrauterine fetal death:**

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

3.12.2 In the event of an intrauterine fetal death, if the women appear to be physically well, her membranes are intact and there is no evidence of ruptured membranes, infection or bleeding, she should be offered a choice of immediate induction of labor or expectant management.

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

3.12.4 If a woman who has had an intrauterine fetal death chooses to proceed with induction of labor, vaginal PGE2 or oral PGE1 to be offered. The dose of vaginal prostaglandin should take into account the clinical circumstances.

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

3.13 **Suspected fetal macrosomia**:

3.13.1 In the absence of any other indications, induction of labor should not be carried out simply because a healthcare professional suspects a newborn is large for gestational age (macrosomic).

3.14 **Recommended methods for induction of labor**

3.14.1 Membrane sweeping involves the examining finger passing through the cervix to rotate against the wall of the uterus, to separate the chorionic membrane from the decidua. If the cervix will not admit a finger, massaging around the cervix in the vaginal fornices may achieve a similar effect.

3.14.1.1 Membrane sweeping is regarded as an adjunct to induction of labor rather than an actual method of induction.

3.14.1.2 The Bishop score is a group of measurements made by doing a vaginal examination and is based on the station, dilation, effacement (or length), position and consistency of the cervix. A score of eight or more generally indicates that the cervix is ripe or favourable when there is a high chance of spontaneous labor, or response to interventions made to induce labor.

3.14.2 Vaginal PGE2 is the preferred method of induction of labor, unless there are specific clinical reasons for not using it (in particular the risk of uterine hyperstimulation). It should be administered as a gel, tablet.

3.14.2.1 The recommended regimens are: One cycle of vaginal PGE2 tablets or gel: one dose, followed by a second dose after 6 hours if labor is not established (upto a maximum of two doses).

3.14.2.2 When offering PGE2 for induction of labor, treating physician should inform about the associated risks of uterine hyperstimulation.

3.14.2.3 Complications of Dinoprostone (prostaglandin E2).

3.14.2.3.1 Gastrointestinal (e.g. nausea, vomiting), backpain, fever.

3.14.2.3.2 Increased intraocular pressure in women with a history of glaucoma.

3.14.2.3.3 Uterine hypercontractility (more than five contractions in 10 minutes or contractions lasting more than 2 minutes).

3.14.2.3.4 Placental abruption or uterine rupture.

3.14.2.4 Pre requisites to induction of labor by Prostaglandin E2 tablets:

3.14.2.4.1 Full explanation and reassurance of the patient.

3.14.2.4.2 Proper documentation of dates and indication for the induction.

3.14.2.4.3 The patient should neither have history of allergy to PGE2.

3.14.2.4.4 Vaginal bleeding.

3.14.2.4.5 Reassuring fetal heart tracing prior to the procedure.

3.14.2.4.6 No uterine contractions.

3.14.2.4.7 Bishop score less than 4.

3.14.3 Oral misoprostol (cytotec) can be used if vaginal PGE2 is not available

3.14.3.1 Effective myometrial stimulant of pregnant uterus selectively binding to PGE1 prostanoid receptor (Senior 1993), it is rapidly absorped orally or vaginally . Misopristol is supplied in a tablet from of 200 micg . it is stable at room temperature.

3.14.3.2 Side effects of misopristol

3.14.3.2.1 Fever and chills are common side effects and usually transient

3.14.3.2.2 Nausea and vomiting ,usually occur within 2-6 hours after taking misopristol and patient may require anti-emetics

3.14.3.2.3 Diarrhea can occur but usually disappear within 24 hours

3.14.3.3 Caution for grand multipara patients and large uterus (as poly-hydramnios and multiple pregnancy)

3.14.3.4 The recommended regimen are

.disolve misopristol tab (200 micg) in big bottle of water (1.5 L.) , the pregnant will drink one quarter of -the bottle every 4 to 6 hours.

The patient must be examined befor every dose for assessing the cervix state.

If she is para 5 or more the dose will be one eight of the bottle every two hours

3.15 **Methods that are not recommended for induction of labor**:

3.15.1 Pharmacological methods:

3.15.1.1 The following should not be used for induction of labor:

3.15.1.1.1 Oral PGE2.
3.15.1.1.2 Intravenous PGE2.
3.15.1.1.3 Extra amnioticPGE2.
3.15.1.1.4 IntracervicalPGE2.
3.15.1.1.5 Intravenous oxytocin alone.
3.15.1.1.6 Hyaluronidase.
3.15.1.1.7 Corticosteroids.
3.15.1.1.8 Estrogen.
3.15.1.1.9 Vaginal nitric oxide donors

3.15.2 Non pharmacological methods:

3.15.2.1 Treating physician should inform women that the available evidence does not support the following methods for induction of labor.

3.15.2.1.1 Herbal supplements.
3.15.2.1.2 Acupuncture.
3.15.2.1.3 Homeopathy.
3.15.2.1.4 Castor oil.
3.15.2.1.5 Hot baths.
3.15.2.1.6 Enemas.
3.15.2.1.7 Sexual intercourse.

3.16 **Surgical methods**

3.16.1 Amniotomy, alone or with oxytocin, should not be used as a primary method of induction of labor unless there is specific clinical reasons for not using vaginal PGE2, in particular the risk of uterine hyperstimulation.

3.17 **Mechanical methods**

3.17.1 Mechanical procedures (balloon catheters and laminaria tents) should not be used routinely for induction of labor.

3.18 **Indications include:**

3.18.1 Pregnancy passing 41+weeks.
3.18.2 Maternal medical diseases (e.g. Diabetes Mellitus).
3.18.3 Pregnancy related conditions (PET, intrahepatic cholestasis of pregnancy).
3.18.4 Fetal causes (IUGR, IUFD, oligohydraminous, and isoimmunisation).
3.18.5 Logistic factors (e.g. risk of precipitate labor, psychological indications, residency quite a distance from medical care and social reason). Such a decision is made on an individual basis and the mother should be clearly informed of potential risks.

3.19 **Contra indications:**

3.19.1 Abnormal lie.
3.19.2 Non reassurance fetal status.
3.19.3 Previous uterine surgery (myomectomy entering uterine cavity, classical or inverted T incision).
3.19.4 Placenta previa.
3.19.5 Umbilical cord presentation.
3.19.6 Active genital herpes: infection.
3.19.7 Known allergy to Dinoprostone or Misopristol.

4. PROCEDURE:

4.1 In the absence of specific risk factors, induction of labor may be initiated in antenatal ward.

4.2 Woman with recognized risk factors like (previous caesarean section, grand multiparous) induction process must be in labor ward or high risk ward.

4.3 Ensure indication for induction is clearly documented in the patient's file, by the physician and the name of drug, dose and expiry date of the tablet to be checked by the nurse.

4.4 Establish baseline observations of temperature, pulse and blood pressure.

4.5 Obtain blood for group and save for all patients undergoing PG induction.

4.6 Ensure patient's privacy and explain the procedure to the mother.

4.7 The attendant physician should:

- 4.7.1 Encourage the mother to empty her bladder before the procedure.
- 4.7.2 Perform abdominal palpation to check for uterine contraction and engagement of presenting part.
- 4.7.3 Perform a vaginal examination.
- 4.7.4 Moisten the PG tablet in sterile water to facilitate insertion and absorption of the tablet and insert into the posterior fornix, high up in vagina. The whole PGE2 tablet 3mg should be given. No half doses are to be given.
- 4.7.5 The mother has to remain in bed for one hour following insertion with continuouscardiotocography. If the trace is reassuring with minimal uterine activity, the patient may ambulate.
- 4.7.6 If the patient is allowed to have food or drink or is NPO this should be written in her chart.
- 4.7.7 Frequency: repeat doses after 6–8 hours, if there is an increase in Bishop's score of no more than 3, a repeat dose is indicated.
- 4.7.8 Subsequent oxytocin augmentation can be performed after 6 hours of PG use or more, this order should only be given by the physician on duty.

4.8 Monitoring :

- 4.8.1 Whenever induction of labor is carried out, facilities should be available for continuous electronic fetal heart rate and uterine contraction monitoring.
- 4.8.2 Before induction of labor is carried out, Bishop score should be assessed and recorded and a normal fetal heart rate pattern should be confirmed using electronic fetal monitoring.
- 4.8.3 After administration of PG when contractions begin, fetal wellbeing should be assessed with continuous electronic fetal monitoring. Once the cardiotocograph is confirmed as normal, intermittent auscultation should be used unless there are clear indications for continuous electronic fetal monitoring.
- 4.8.4 If the fetal heart rate is abnormal after administration of vaginal PGE2 or PGE1, senior physician to be informed immediately.
- 4.8.5 Bishop score should be reassessed 6 hours after vaginal PGE2 tablet or gel insertion or PGE1 to monitor progress.
- 4.8.6 Once active labor is established maternal and fetal monitoring should be carried out.

4.9 Pain relief:

- 4.9.1 Women being offered induction of labor should be informed that induced labor is likely to be more painful than spontaneous labor.
- 4.9.2 Women should be informed of the availability of pain relief options in different settings.
- 4.9.3 During induction of labor, treating physician should provide mother with the pain relief appropriate for them and their pain. This can range from simple analgesics to epidural analgesia.

4.10 Prevention and management of complications:

- 4.10.1 Uterine hyperstimulation.
  - 4.10.1.1 Tocolysis should be considered if uterine hyper stimulation occurs during induction of labor.
  - 4.10.1.2 Consider manual removal of the PGE2 tablet.
  - 4.10.1.3 Consider fetal scalp blood sampling (where possible and available).
  - 4.10.1.4 Consider caesarean section if hypercontractility and fetal compromise persist.
- 4.10.2 Failed induction:
  - 4.10.2.1 Failed induction is defined as labor not starting after one cycle of treatment as

described earlier.

4.10.2.2 If induction fails, senior physician should discuss this with the mother and provide support. The mother's condition and pregnancy in general should be fully reassessed and fetal wellbeing should be assessed using electronic fetal monitoring.

4.10.2.3 If induction fails, decision about further management should be made in accordance with the mother's wishes and should take into account the clinical circumstances.

4.10.2.4 If induction fails, the subsequent management options include:

4.10.2.4.1 Further attempt to induce labor (the timing should depend on the clinical situation and the mother's wishes).

4.10.2.4.2 Caesarean section.

4.11 Cord prolapsed:

4.11.1 To reduce the likelihood of cord prolapse, which may occur at the time of amniotomy, the following precautions should be taken:

4.11.1.1 Before induction, engagement of the presenting part should be assessed.

4.11.1.2 Obstetricians and midwives should palpate for umbilical cord presentation during the preliminary vaginal examination and avoid dislodging the baby's head.

4.11.1.3 Amniotomy should be avoided if the newborn's head is high.

4.11.1.4 Senior registrar should always check that there are no signs of a low lying placental site before membrane sweeping and before induction of labor.

4.12 Uterine rupture:

4.12.1 If uterine rupture is suspected during induced labor, the fetal should be delivered by emergency caesarean section.

5. MATERIAL AND EQUIPMENT:

5.1 CTG Monitor.
5.2 Vaginal examination pack.
5.3 Sterile gloves.
5.4 Lubricant gel.
5.5 Vaginal Prostaglandin E2 tablet or gel.
5.6 Sterile water.
5.8 Apron.
5.9 IV cannula size 18 and extension set.
5.10 3 way stop cock.
5.11 10 ml syringe.
5.12 Oxygen with face mask.

6. RESPONSIBILITIES:

6.1 Physician
6.2 Nurse
6.3 Midwife

7. APPENDICES:

N/A

8. REFERENCES:

8.1 MOH, Guidelines for Obstetrics and Gynecology, Clinical Policies and Procedures.
8.2 National Institute for Clinical Excellence. Clinical Guideline 70; Induction of Labor; July 2008.
8.3 CBAHI Standard 3rd Edition 2016.

9. APPROVALS:

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