SCHOOL OF MEDICINE
DEPARTMENT OF OBSTETRICS & GYNECOLOGY

STANDARD OPERTING PROCEDURE- POLICY

MISOPROSTOL FOR CERVICAL RIPENING

SCOPE/APPLICABILITY:

Oral and Vaginal Misoprostol use on Labor and Delivery

Indications:
Cervical ripening for induction of labor.

Contraindications:

- Previous cesarean delivery or other uterine surgery
- Non-vertex presentation
- Positive or suspicious Oxytocin Challenge Test (OCT)
- Any contraindication to vaginal delivery or induction (i.e. placenta previa, prior uterine rupture, active genital herpes, etc.)
- Painful uterine contractions less than 4 minutes apart

PURPOSE:

A favorable cervix significantly increases success of induction of labor at term. Therefore if a cervix is unfavorable (Bishop Score < or = 6), cervical ripening should be undertaken (Wing, Lockwood, & Barss, 2017).

Misoprostol (Cytotec, prostaglandin El) is a commonly used pharmacologic agent used off-label for cervical ripening. It acts on the cervix by dissolving collagen bundles and increasing water content of the tissue (Wing, et al. 2017). Misoprostol results in reduced risk of not achieving vaginal birth within 24 hours; reduces need for oxytocin augmentation; reduces risk of cesarean birth; and results in few NICU admissions as compared to placebo (Alfirevic, Aflaifel, & Weeks, 2014).

Uterine tachysystole with and without fetal heart rate changes is more common with use of misoprostol than with other methods of cervical ripening, but adverse perinatal outcomes are not increased (Wing, et al., 2017). There is an increased risk for unchanged cervix at 12-24 hours with misoprostol as compared to other prostaglandins. There is also an increased risk of meconium stained fluid when compared to oxytocin alone (Alfirevic , Aflaifel, & Weeks, 2014).

Dosing:

Oral misoprostol is more effective than placebo and is equivalent to oxytocin for induction of labor (Alfirevic et al., 2014). Vaginal misoprostol is more effective than placebo, oxytocin alone, and dinoprostone for cervical ripening and labor induction (Hofineyr et al., 2013).
In women with ruptured membranes, use of oral misoprostol limits the number of vaginal manipulations required for induction of labor (Alfirevic et al., 2014).

- Oral misoprostol at a dose of 25 mcg PO q 2 hrs is recommended for labor induction (Alfirevic, et al., 2014; WHO, 2011).
  - Consider re-dosing after 2 hours if contractions are: 4 minutes apart, and fetal status is reassuring.
  - Alternatively, a dose of 50 mcg PO q 4hrs is also acceptable
    - Consider this dosing for nighttime inductions to allow patient to rest more between doses
    - Consider this dosing to allow for increased ambulation after 2 hours of fetal monitoring

- Vaginal misoprostol at a dose of 25 mcg in posterior vaginal fornix q 4 hrs is recommended for labor induction (WHO, 2011, Wing et al., 2017).
  - If no significant uterine activity (i.e. at least 3 contractions in a 10 minute period and/or cervical change) after 2 doses, the dose may be increased to 50 mcg every 4 hours.

- Once a patient has received total dosing of 300 mcg, continued use should be discussed with attending versus converting to another method of induction.
  - OB provider should evaluate patient prior to re-dosing.

DEFINITIONS:
[List any definitions if applicable]

PROCEDURE:
Misoprostol is available in 100 and 200 mcg scored tables, which are broken to achieve the desired dose of 25 mcg. Misoprostol can be administered orally or vaginally (Wing, et al., 2017).

Initiation:
- Counseling of patient regarding:
  - Indication for induction
  - Options I recommendations for cervical ripening
  - Possible side effects, including: diarrhea, nausea, vomiting, abdominal pain, chills, fever, and tachysystole with or without Fetal Heart Rate (FHR) changes
  - Potential for FHR abnormalities requiring intervention
- Place saline lock or start IV fluids as indicated
- Confirm vertex presentation and appropriate Bishop score
- Obtain reactive NST or negative OCT (consider OCT with IUGR or non-reassuring fetal surveillance)

Administration:
- 25 micrograms PO every 2 hours or
- 50 micrograms PO every 4 hours or
- 25 micrograms Per Vagina every 4 hours
- Consider re-dosing per above dosing schedule if contractions are >4 minutes apart, and fetal status is reassuring (Category I)

- Recommended maximum dose is 300 mcg regardless of route of administration, but may consult if maximum is reached and additional doses desired.

Fetal Monitoring:

- Continuous EFM is indicated for at least 2 hours after each dose administration.
    - In the case of vaginal dosing, the patient should remain supine for 30 minutes with lateral tilt or side-lying in order to promote cervical absorption of the medication.

• Intermittent monitoring of FHT may be considered after a 2 hour monitoring interval if there is no active labor pattern and FHT remains Category I (unless using orally and re- dosing).

• If significant uterine activity with cervical change persists 4 hours after dose (2 hours after 25 mcg PO dosing), then re-dosing is not indicated. Intermittent monitoring of FHT may then be considered in the absence of further pharmacologic stimulation of labor and in the presence of Category I FHT.

Management of Complications:

In the case of tachysystole with FHR decelerations consider the following:

- Maternal position change
- IV Fluid bolus
- Oxygen by mask (1OL per min by non-rebreather)
- Remove remnants of vaginal misoprostol tablet if possible
- Administer terbutaline per standing order if no response to other measures
- Consult physician to evaluate need for urgent operative delivery if there is an inadequate response or at provider discretion.

Oxytocin

May initiate oxytocin 2 hours after final oral dose or 4 hours after final vaginal dose of misoprostol in the absence of an active labor pattern, and with reassuring FHT.

Mechanical Ripening

- A Foley or Cook catheter may be used as an adjunct to misoprostol if the criteria for use of these devices is met.
- The catheter may be placed 2 hours after last misoprostol dose if there are less than 3 contractions in a 10 minute period.
- Misoprostol can be continued once catheter is placed using the standard criteria.

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APPROVALS:

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