**I. Purpose:**

To provide safe and standardized nursing care for the patient requiring induction or augmentation of labor.
II. Policy:

Outlines the nursing care of the patient who is undergoing induction or augmentation of labor.

III. Definitions:

A. Induction of labor: the stimulation of uterine contractions before the spontaneous onset of labor for the purpose of accomplishing vaginal birth.

B. Augmentation of labor: the stimulation of uterine contractions when spontaneous contractions have failed to result in progressive cervical dilation or descent of the fetus.

C. Cervical Ripening: the process of effecting physical softening and distensibility of the cervix in preparation for labor and birth.

D. Uterine tachysystole: More than 5 uterine contractions of $\geq$ 30 seconds duration in 10 minutes, averaged over a 30-minute window. Note: Contraction frequency alone is only a partial assessment of uterine activity. Other factors such as duration, intensity, and relaxation time between contractions are equally important in clinical practice.

IV. Additional Competencies Required:

Unit based orientation.

V. Specific Information:

A. Admission

1. Initial maternal-fetal assessment should include a 20 minute fetal heart rate tracing and confirmation of vertex presentation. For a Category II or III fetal heart rate tracing, notify provider to review Fetal Heart Rate (FHR) tracing prior to proceeding with induction or augmentation.

2. Admission assessment and documentation should be performed in accordance with policy Nursing Management of the Labor Patient.

3. Refer to policy Fetal Heart Rate Monitoring for assessment parameters to include when assessing the fetal heart rate.

4. Please refer to policy “Management of Patients Experiencing Fetal Loss” for specific assessment parameters and information related to induction of labor for this specific patient population.
B. Cervical Ripening

1. Cervical Foley bulb
   a. Obtain 26 Fr Foley catheter with a 30ml balloon/bulb
   b. Discuss pain control options with patient prior to Foley bulb placement
   c. Assist patient with positioning for placement
   d. Once provider has placed catheter– inflate bulb using 30 to 80 ml of sterile water per provider order
   e. Secure catheter to leg, making sure catheter is taut

2. Misoprostol (Cytotec)
   a. Vaginal Cytotec is placed by the ob provider in the posterior vaginal fornix.
      i. Usual Dose: 25 mcg per provider order
      ii. Limit the use of lubricating jelly because it may decrease absorption of the medication
   b. Cytotec may be administered orally or sublingually, per provider order
   c. An additional two doses of Cytotec may be given every 4 hours as needed depending on patient response, per provider order
   d. The recommended interval between the last dose of Cytotec and intravenous oxytocin is 4-6 hours.

3. Vital Signs
   a. Assessment and documentation of the patient’s vital signs (BP, Pulse, Respiratory Rate) will be obtained on admission and every 30 minutes x 2 following placement of Cytotec. If vital signs are stable prior to and following administration of Cytotec the assessment and documentation of vital signs may then be done every four hours.
   b. Temperature should be obtained on admission and every four hours. Increase frequency to every two hours if rupture of membranes occurs.
   c. If the patient is in labor refer to policy Nursing Management of the Labor Patient.

4. Electronic Fetal Monitoring (EFM)
a. EFM and uterine activity monitoring is initiated prior to administration of Cytotec or placement of cervical Foley bulb.
b. Continuous EFM and uterine activity monitoring should continue for two hours following Cytotec administration and may then be discontinued with a reassuring EFM tracing (refer to policy Fetal Heart Rate Monitoring) and in the absence of regular uterine contractions occurring every 5 minutes or less.
c. Continuous EFM and uterine activity monitoring should continue for one hour following cervical Foley bulb placement. If EFM tracing remains reassuring and in the absence of regular uterine contractions occurring every 5 minutes or less, continue intermittent or continuous fetal monitoring per provider order.
d. If uterine contractions become regular the patient is reassessed and the provider notified. Once consistent uterine activity has been established with Cytotec administration, uterine activity should be documented every 30 minutes.
e. If the patient is in labor refer to policy Nursing Management of the Labor Patient.

5. Activity
   a. The patient is maintained on bedrest for at least 2 hours following vaginal cytotec placement
   b. After 2 hours the patient may ambulate as risk status allows

6. Intake and Output
   a. Obtain intravenous access prior to placement of cytotec by heplock or IV infusion based on patient condition or as ordered. Obtain IV access when beginning oxytocin or during active labor.
   b. Measure and record hourly and 24 hour intake and output totals.
   c. Patients may have clear liquids as risk status allows, per provider order.

C. Induction/Augmentation of Labor with Oxytocin

1. General Procedure for Oxytocin Administration
   a. Obtain premixed oxytocin solution from the pharmacy: 15 units oxytocin in 250ml NS. With this preparation 1
milliliter per hour (ml/hr) is equivalent to 1 milliunit per minute (mU/min).

b. The infusion is placed on an infusion pump utilizing the Guardrails setting to run IV piggyback into the main IV line at the port most proximal to the patient. Other IV medications may be administered through the distal port of the main IV line without altering oxytocin delivery. IV tubing is labeled by the nurse to indicate which line is oxytocin and other intravenous medications are not administered via the oxytocin tubing.

c. Labor nurses may refuse to administer oxytocin if in their best judgment it is contraindicated, or if the needs of the service make it difficult or impossible to adequately monitor maternal-fetal status.

2. Oxytocin Dosage and Administration

a. Begin oxytocin infusion at 1 to 2 mU/min
b. Gradually increase oxytocin by 1 mu/min every 30 minutes until adequate progress of labor is established and/or contractions are every 2 to 3 minutes.

c. Oxytocin may be increased by 2 mu/min every 30 minutes with provider order and if patient status allows.

d. Once adequate labor is established, maintain or decrease oxytocin to baseline rate necessary for continued labor progress.

e. Oxytocin may be increased to a maximum of 20 mu/min per this protocol at the discretion of the nurse. An additional provider order is needed to increase oxytocin infusion beyond 20 mu/min.

f. If using an intrauterine pressure catheter (IUPC) titrate oxytocin to achieve Montevideo Units (MVU’s) of 180-240 mmHg per 10min period. (Refer to policy Fetal Heart Rate Monitoring)

g. In circumstances when oxytocin is temporarily discontinued, if the discontinuation is for less than 30 minutes, oxytocin may be resumed at no more than half the rate that preceded the discontinuation. If the oxytocin has been discontinued for greater than 30 minutes, oxytocin is resumed at the initial dose ordered, gradually increasing the rate as appropriate based on unit protocol and maternal-fetal status. Please refer to “tachysystole management” below for specifics regarding resumption of oxytocin after resolution of uterine tachysystole.
3. Maternal and Fetal Assessment
   a. Vital Signs
      i. With every increase in oxytocin and 15 minutes after each titration, assess and document blood pressure, pulse and respiration rate.
      ii. When not increasing oxytocin rate, assess and document blood pressure, pulse and respiration rate every 30 minutes if stable.
      iii. If membranes are ruptured, assess and document maternal temperature every 2 hours. If membranes are intact, assess and document maternal temperature every 4 hours.
   b. Fetal Status
      i. Continuous electronic fetal monitoring must be maintained during administration of oxytocin.
      ii. Evaluate and document fetal tracing every 15 minutes during active titration and every 15 minutes post titration.
      iii. The fetal heart rate tracing may be evaluated and documented every 30 minutes once on a maintenance dose of oxytocin with a Category I fetal heart rate tracing.
      iv. For Category II fetal heart rate tracing, notify the provider to review the FHR tracing. Oxytocin may be decreased or discontinued per nurse discretion.
      v. For Category III tracing discontinue oxytocin and initiate interventions as listed in policy Fetal Heart Rate Monitoring.
      vi. Refer to policy Fetal Heart Rate Monitoring for assessment parameters to include when assessing the fetal heart rate.
   c. Uterine Activity
      i. Assess and document uterine activity every 15 minutes when actively titrating oxytocin.
      ii. Assess and document uterine activity every 30 minutes when maintaining oxytocin dose.
      iii. Decrease or discontinue oxytocin infusion for uterine tachysystole. See “Tachysystole Management” in section D. below.
   d. Intake and Output
i. Obtain intravenous access when beginning oxytocin.

ii. Measure and record hourly and 24 hour intake and output totals.

iii. Patients may have clear liquids as risk status allows, per provider order.

D. Tachysystole Management

1. Uterine Tachysystole, as defined above, will be identified and interventions initiated within 20 min. of its development. Interventions are based on what fetal heart rate category is identified at the time.

   a. Normal FHR/Category I fetal heart rate tracing with uterine tachysystole
      i. Assist mother to a lateral position.
      ii. Administer IV fluid bolus of approximately 500 ml Lactated Ringer’s solution (defer to provider if patient has history of cardiac or renal compromise)
      iii. If uterine activity has not returned to normal after 10-15 minutes, decrease pitocin, if applicable, to a rate by at least half; if uterine activity has not returned to normal after 10-15 more minutes, discontinue oxytocin until uterine activity is less than 5 contractions in 10 minutes.

   b. Indeterminate or Abnormal FHR/Category II or III fetal heart rate tracing with uterine tachysystole
      i. Discontinue oxytocin, if applicable.
      ii. Assist mother to a lateral position.
      iii. Administer IV fluid bolus of approximately 500 ml Lactated Ringer’s solution (defer to provider if pt. has history of cardiac or renal compromise)
      iv. Administer oxygen at 10L/min via non-rebreather facemask if the interventions above do not resolve the indeterminate or abnormal FHR pattern. Discontinue oxygen as soon as possible based on the fetal heart rate pattern.
      v. Notify primary provider
      vi. If no response to above interventions, 0.25 mg terbutaline may be given intravenously or subcutaneously, per provider order. A bedside evaluation by the provider is required prior to administration of terbutaline.
c. Resumption of oxytocin after resolution of tachysystole
   i. If oxytocin has been discontinued for less than 30 minutes with a Category I fetal heart rate tracing, and tachysystole according to the above definition has resolved, oxytocin may be resumed at no more than half the rate that preceded the tachysystole. Gradually increase the rate as appropriate based on unit protocol and maternal-fetal status.
   ii. If the oxytocin has been discontinued for greater than 30 minutes with a Category I fetal heart rate tracing, and tachysystole according to the above definition has resolved, resume oxytocin at the initial dose ordered, gradually increasing the rate as appropriate based on unit protocol and maternal-fetal status.

d. If uterine activity and/or the FHR pattern have not returned to normal after initiating the above interventions, notify the provider.

VI. Clinical Implications:

   Notify provider for any of the following:

   A. Spontaneous rupture of membranes, unsure status of amniotic membranes, meconium or blood stained amniotic fluid
   B. Vaginal bleeding beyond normal bloody show
   C. Analgesia or anesthesia needs of the patient
   D. Vital signs outside parameters of provider orders
   E. Imminent delivery
   F. Category II or III fetal heart rate tracing
   G. Significant system assessment findings
   H. Inadequate uterine response at oxytocin dosage of 20 mu/min.
   I. Suspected uterine rupture
   J. Uterine tachysystole unresponsive to nursing management
   K. Deterioration or change in patient condition as outlined in policy "Physician Notification for Change in Patient Condition."

VII. Patient/Family Education:

   Educate patient/family at the level of their understanding of the following:
A. Plan of care
B. Pain management options available
C. Electronic fetal monitoring
D. Risks and benefits of augmentation/induction procedure
E. Unit routine

VIII. Documentation:

Document the following per protocol above in the patient’s medical record:

A. Admission- refer to policy Nursing Management of the Labor Patient
B. Ongoing Assessments
   1. Vital signs
   2. Fetal heart rate
   3. Uterine activity
   4. Amniotic fluid status
   5. Cervical exam
   6. Intake and nutrition
   7. Output and elimination
   8. Activity
   9. Pain management
  10. Physical reassessment
  11. Falls risk
  12. Medication administration

C. Interventions and fetal/maternal response
D. Document patient and family education in teaching record
E. Initiate appropriate plan of care pathway and document patient’s progress on the pathway

IX. References:


Clinical Policy Manual:
CL 20-06.08 Physician Notification for Change in Patient Condition

Area Specific Policy Manual: Labor and Delivery
AS 201111-20.01 Fetal Heart Rate Monitoring
AS 201111-20.03 Nursing Management of the Labor Patient


**X. Endorsement:**

OB Patient Care Committee 5/15/2012

**XI. Approval:**

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Robin Mutz, RNC, MPPM, NEA-BC Administrative Director, Women’s Patient Care Center Date

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