GUIDELINE:
To provide guidelines for the in-patient use of agents for cervical ripening, augmentation or induction of labor to move towards labor and delivery

PERSONNEL PERFORMING:
Registered Nurse
Physician/Certified Nurse Midwife (must be present within 5 minutes of notification)

EQUIPMENT NEEDED:
Fetal Heart Monitor
Written order
Informed consent (MD/CNM will conduct a discussion of risks, benefits, and alternatives with the patient)
Intravenous infusion pump (with IV use only)
Medication/device as needed

GUIDELINE for Prostaglandin gel, Cervidil, Misoprostol or Mechanical Cervical Ripening

Overview Prostaglandin Gel, Cervidil, Misoprostol or Mechanical Cervical Ripening

1. Assess and document patients vital signs prior to cervical ripening, 30 minutes x2, every 4 hours if stable and as needed.
2. Have patient void prior to placing on Electronic Fetal Monitoring (EFM)
3. Electronic Fetal Monitoring
   a. Baseline 20 minute fetal heart tracing prior to starting cervical ripening with reassuring fetal strip
   b. Continue per order
4. Desired Contractions are every 2 to 3 minutes lasting 60-90 seconds with 1 minute resting tone between contraction palpating strong.
5. Hypertonicity (increased uterine resting tone is the most common side effect of prostaglandin gel preparations)
6. Further needs during use of Prostaglandin gel or Misoprostol:
a. Obtain Intravenous access prior to prostaglandin gel or misoprostol application/insertion
b. Maintain patient on bed rest in supine tilt for at least 60 minutes following application/insertion

**Misoprostol**
a. Equipment: 100 microgram misoprostol tablet, sterile gloves
b. Dose: 25 micrograms (quarter a 100 microgram misoprostol tablet and discard the rest of tablet) quarter of tablet inserted intravaginally every 4 hours by MD/CNM
c. Maximum number of doses are 6
d. Stop dosing when patient moves to active labor with cervical change and two or more contractions in 10 minutes or a nonreassuirming fetal tracing

**Cervidil**
a. equipment: cervidil, sterile gloves
b. dose is approximately 0.3 mg/hour in a 10 milligram dinoprostone reservoir
c. unstable at room temperature - must be refrigerated until immediately prior use
d. reservoir chip with removable cord is inserted by MD/CNM
e. keep supine for 2 hours following insertion
f. remove after onset of labor or after 12 hours
g. delay oxytocin for 60 minutes after removal of insert
h. monitor for at least 15 minutes after removal

**Balloon Catheters**
a. equipment: foley catheter, large syringe, speculum, sterile saline, long forceps, sponge with antiseptic
b. foley catheter with 25 to 50 mL balloon that can be passed through an undilated cervix before inflation by MD/CNM under direct visualization
c. After inflation by MD/CNM secure catheter to inner aspect of woman's thigh
d. Should use only in patients with intact membranes and unfavorable cervix
e. Ambulation is appropriate with intermittent auscultation. Monitor per physician/CNM order.
f. Notify MD/CNM to deflate balloon and remove catheter for; rupture of membranes, fever, bleeding, or uterine hyperstimulation
g. When continuous traction is applied to the catheter the woman may experience vasovagal response, discontinue traction if this occurs
Oxytocin
Biologic half-life is usually between 7 to 15 minutes
Uterine response to oxytocin usually occurs within 3 to 5 minutes after intravenous administration has begun

Procedure:
1. equipment: IV bag, premixed 20 units oxytocin in 1000cc D5LR via infusion pump
2. Obtain baseline 20 minute fetal heart tracing prior to starting induction with reassuring fetal strip
3. Assess and document patients vital signs prior to induction, 30 minutes x 1, every 2 hours or as clinically indicated
4. Assess patient's cervical status and fetal position PRIOR to initiation of the infusion
5. Maintain continuous fetal monitoring during Oxytocin use and document every 15 minutes.
6. If not already started, start 18 gauge intravenous angiocatheter
7. Hang main-line fluids of 1000 ml of ordered fluids via infusion pump
8. Hang premixed (from pharmacy) 20 units of Oxytocin in 1000 mL of fluids via infusion pump at port closest to the patient
9. Begin infusion via infusion pump per MD/CNM's order
10. Increase or decrease according to orders and fetal/maternal response. Notify the MD/CNM any time the Oxytocin is stopped.
11. Observe for:
   a. Signs and/or symptoms of uterine rupture - may be asymptomatic; possible signs or symptoms include vaginal bleeding, non-reassuring fetal heart rate, abdominal pain
   b. Uterine hypertonus - abnormal high resting tone and/or contraction frequency
   c. Uterine tachysystole - series of uterine contractions lasting 2 minutes or more or a contraction frequency of 5 or more in 10 minutes
   d. Uterine hyperstimulation - uterine contractions lasting 2 minutes or more or a contraction frequency of 5 or more in 10 minutes with evidence that the fetus is not tolerating this contraction pattern as demonstrated by late decelerations or fetal bradycardia
   e. Hypotension
   f. Tachycardia
   g. Maternal shock/vascular collapse
   h. Respiratory distress. Water intoxication - combination of pitocin and large amounts of
fluids with symptoms including: hyponatremia, progressive oliguria and alterations unconsciousness.

i. Vaginal bleeding

j. Precipitous delivery

k. Marked abdominal tenderness, rigidity or severe pain

l. Non-reassuring fetal heart tracing. Contractions >5 per 10 minutes accompanied by Fetal Heart Rate abnormalities. Discontinue Oxytocin drip, implement strategies for increased fetal circulation and notify MD/CNM.

12. Oxytocin may be discontinued per nursing discretion or per MD/CNM

13. Possible treatment options for nonreassuring fetal tracing include:

a. lateral positioning

b. oxygen at 8-10 Liters/minute via face mask

c. IV fluid bolus if dehydrated

d. Terbutaline 0.25mg subcutaneous

e. Education and support the patient/family regarding induction/augmentation method including signs and symptoms of hyperstimulation

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*Notify MD/CNM above 20 millunits/minute

**DOCUMENTATION**
Documentation should include when induction/augmentation started, decreases/increases or stopping of medications and maternal/fetal responses.

**REFERENCES**

Cross References:
- Fetal Monitoring Guideline