### Cx Ripening

**Process to effect physical softening & distensibility of the Cervix in preparation for labor & birth**

- **Physician Orders for induction/Augmentation of Labor**
- **Documented Gestational Age**
  - For elective delivery before 39 weeks must have documentation of one of the 4 ACOG Criteria or + Amniocentesis
- **Contraindications see P&P for each agent**
- **Documented Indication for Induction**
- **See Indications in the policy**
- **Fetal presentation verified**
- **Informed consent for induction of labor provided by her OB & documented in the prenatal record or admission progress note. (not the Oxytocin Consent.)**

### Elective Induction

**Iatrogenic stimulation of uterine contractions before spontaneous labor begins**

- **Physician Orders for induction/Augmentation of Labor**
- **Prenatal Record**
- **OB Short Form H&P OR up to date Prenatal Record**
- **Completed & signed One page Consent for Induction**
- **Fetal presentation verified**
- **All elements on Pre-Oxytocin Checklist**
  - **For Bishop Score < 7 contact physician for contraindications to Cx ripening**

### Medically Indicated Induction

**When benefits of expeditious delivery to either mother or fetus outweigh the risk of continuing the pregnancy**

- **Physician Orders for induction/Augmentation of Labor**
- **Prenatal Record - may be delayed for non-elective inductions (still need it eventually)**
- **Completed & signed One page Consent for Induction**
- **Fetal presentation verified**
- **Pre-Oxytocin Checklist except # 2, 3, 5 & 6**
  - **For Bishop Score < 7 contact physician for contraindications to Cx ripening**

### Augmentation

**Increasing frequency & improving intensity of existing UCs for a patient in labor who is not progressing adequately to accomplish a vaginal delivery**

- **Physician Orders for induction/Augmentation of Labor**
- **Prenatal Record may be delayed for non-elective inductions (still need it eventually)**
- **Consent for Augmentation Office/Clinic or Hospital Consent of Augmentation**
- **Consent of Augmentation Office/Clinic or Hospital Consent of Augmentation**
- **Fetal presentation verified**
- **Pre-Oxytocin Checklist except # 2, 3, 5 & 6**
Pre–Oxytocin Checklist for Women with Term–Singleton Babies

This Pre–Oxytocin checklist represents a guideline for care; however, individualized medical care is directed by the physician.

If the following checklist cannot be completed, Oxytocin should not be initiated. If Oxytocin is stopped, the Pre–Oxytocin Checklist will be reviewed before Oxytocin is re–initiated.

Date and time completed______________   RN Signature__________________________________

1. _____ Physician Order on chart
2. _____ OB Physical & History Short Form completed (for elective induction)
3. _____ Prenatal Record on chart*
4. _____ Indication for induction is documented
5. _____ Pelvis is documented by physician to be clinically adequate (should be on prenatal record)*
6. _____ Estimated fetal weight within past week (clinical or ultrasound) less than 4500 grams in a non–diabetic woman or less than 4250 grams in a diabetic woman.* If not available, measure fundal height. If fundal height is greater than 40 centimeters notify physician.
7. _____ Gestational age documented
8. _____ Verify signed informed consent for Vaginal Delivery and Possible Episiotomy.
9. _____ Verify signed informed consent for Induction or Augmentation
10. _____ Physician with C–section privileges is aware of the induction and readily available
11. _____ Status of cervix is assessed and documented
12. _____ Presentation is assessed and documented (Physician is required to come in if nurse unable to determine)
13. _____ Fetal assessment completed and indicates: (Complete all below)
   a. A minimum of 30 minutes of fetal monitoring is required prior to starting Oxytocin
   b. Presence of 2 accelerations (15 bpm x 15 sec) within 30 minutes, or moderate variability, or a biophysical profile of 6 out of 10 present.
   c. No late decelerations in the last 30 minutes
   d. No more than 2 variable decelerations exceeding 60 seconds and decreasing greater than 60 bpm from the baseline within previous 30 minutes prior to starting Oxytocin infusion

*May be delayed for non–elective admissions

**There will be some indications in which alteration in management from that described in the protocol are clinically appropriate. If, after reviewing the fetal heart rate strip and course of labor the responsible physician feels that in his or her judgement, continued use of Oxytocin is in the best interest of the mother and baby, the physician should document the indication for deviating from protocol and order the Oxytocin to continue.
### CHIEF COMPLAINT

- No changes in patient history. See attached prenatal record. (If no prenatal record, document History below).
- If changes in history please specify:

### PAST MEDICAL HISTORY

- Major Illnesses/Injuries:
- Allergies:
- Surgeries:
- Current Medications:
- OTC Medications:
- HEENT:
- Respiratory:
- Gastro–Intestinal:
- CNS:
- Genito–Urinary:
- Cardio–Vascular:
- Musco–Skeletal:

### PHYSICAL EXAMINATION

<table>
<thead>
<tr>
<th>WNL</th>
<th>ABNORMAL FINDINGS</th>
</tr>
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<tbody>
<tr>
<td>HEENT:</td>
<td>□</td>
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<tr>
<td>Neck:</td>
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<tr>
<td>Chest/Breast:</td>
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<tr>
<td>Pelvic:</td>
<td>□</td>
</tr>
<tr>
<td>Rectal:</td>
<td>□</td>
</tr>
</tbody>
</table>

Pre–Procedure Diagnosis: ___________________________

Procedure risks / benefits / alternatives explained: □ Yes □ No

Blood transfusion risks / alternatives explained: □ Yes □ No

Date: _______ TIME: _______ Physician’s Signature: ___________________________

### OPERATIVE NOTE

- Surgeon: ___________________________
- Assistant: □ None
- Procedure: ___________________________
- Findings: ___________________________
- Specimens: □ None
- Post–Op Diagnosis: ___________________________
- EBL: □ Minimal ________ mL
- Date: _______ TIME: _______ Physician Signature: ___________________________

### PATIENT I.D. LABEL

- MOUSE MICKEY
- 09/11/1914 093 M
- 08/03/2008 00555555 x
- SHIVARAM SUNIL M.
- 2W 0218 B0

### OB HISTORY & PHYSICAL SHORT FORM

- Original – Chart
- Copy – Physician

34633 (10/09)
The following conditions are considered Medical Indications to schedule a Cesarean Section before 39 weeks gestation:

<table>
<thead>
<tr>
<th>Maternal Indications</th>
<th>Fetal Indications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coagulopathy / Thrombophilia</td>
<td>Abruption, Placental</td>
</tr>
<tr>
<td>Uncontrolled Diabetes</td>
<td>Fetal Malformation</td>
</tr>
<tr>
<td>Heart Disease</td>
<td>Isoimmunization</td>
</tr>
<tr>
<td>HIV Infection</td>
<td>Intrauterine Growth Restriction (IUGR)</td>
</tr>
<tr>
<td>Hypertensive Disorders:</td>
<td>Abnormal Lie</td>
</tr>
<tr>
<td>• Gestational Hypertension</td>
<td>• Transverse</td>
</tr>
<tr>
<td>• Chronic Hypertension</td>
<td>• Oblique</td>
</tr>
<tr>
<td>• Preeclampsia</td>
<td>• Unstable</td>
</tr>
<tr>
<td>• Eclampsia</td>
<td></td>
</tr>
<tr>
<td>Liver Disease / Cholestasis in Pregnancy</td>
<td>Multiple Gestation</td>
</tr>
<tr>
<td>Pulmonary Disease</td>
<td>Oligohydramnios</td>
</tr>
<tr>
<td>Antiphospholipid Syndrome</td>
<td>Placental Previa</td>
</tr>
<tr>
<td></td>
<td>• PROM - Premature Rupture of Membranes</td>
</tr>
<tr>
<td></td>
<td>Previous Cesarean Section with current IUFD</td>
</tr>
<tr>
<td></td>
<td>Abnormal Fetal Monitor Tracing</td>
</tr>
</tbody>
</table>

The following conditions, including but not limited to, are considered elective deliveries and cannot be scheduled before 39 weeks:

- Breech Presentation
- Macrosomia
- Patient Choice / Social
- Patient lives great distance from delivering hospital
- Prior Cesarean Section

Rarely, there may be a patient who falls outside of the accepted indications who may be safer if delivered prior to 39 weeks, physicians must use their best clinical judgment and are encouraged to obtain a consultation in such cases for adequate documentation.

REFERENCES

TJC – Conditions Justifying Delivery < 39 weeks.” (Version 04/10) CMQCC.org
You are scheduled for an induction of labor on ___________________ (date) at ___________(time).
The reason for your scheduled induction is _____________________________________________.
The goal of induction of labor is to achieve vaginal delivery by starting uterine contractions before the spontaneous
start of labor. Elective induction of labor (scheduled induction without a medical indication) may not be done until you
are at least 39 weeks. This is important so that your newborn does not have complications due to possible
prematurity.

Fetal Maturity Criteria  (Please complete for elective inductions)
Final EDC ______________________ as confirmed by  ❑ LMP  ❑ Ultrasound
❑ Fetal heart tones have been documented for 20 weeks by non–electronic fetoscope or for 30 weeks by doppler.
❑ 36 weeks have passed since a positive serum or urine HCG pregnancy was confirmed
❑ An ultrasound measurement of the crown–rump length, obtained between 6–11 weeks, supports a gestational
age of at least 39 weeks.
❑ An ultrasound scan, obtained at 12–20 weeks, confirms a gestational age of 39 weeks or more determined by
clinical history and physical exam
❑ 37 weeks have elapsed post–ovulation documented by ovulation predictor or since fertilization

Your cervical exam today is _______ centimeters dilated and _______ % effaced. The Bishop score is a scoring
system based on your cervical exam and your score today is ____. When the Bishop score is 7 or more, the
likelihood that you will have a vaginal birth is the same as that of natural labor. Induction of labor with a low Bishop
score has been associated with failure of induction, prolonged labor, and a high cesarean section rate.

Bishop Score (must be completed for all inductions): _______ Pelvis Adequate  ❑ Yes  ❑ No

<table>
<thead>
<tr>
<th>Factor</th>
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<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Closed</td>
<td>1−2cm</td>
<td>3−4cm</td>
<td>5cm or more</td>
</tr>
<tr>
<td>Effacement</td>
<td>0−30%</td>
<td>40−50%</td>
<td>60−70%</td>
<td>80% or more</td>
</tr>
<tr>
<td>Station</td>
<td>−3</td>
<td>−2</td>
<td>−1/0</td>
<td>+1/+2</td>
</tr>
<tr>
<td>Consistency</td>
<td>Firm</td>
<td>Medium</td>
<td>Soft</td>
<td>---</td>
</tr>
<tr>
<td>Position</td>
<td>Posterior</td>
<td>Mid</td>
<td>Anterior</td>
<td>---</td>
</tr>
</tbody>
</table>

If your Bishop score is low, your cervix is not “favorable” for induction. Your Physician may recommend a form of
cervical ripening:
❑ Misoprostol or Dinoprostone (Cervidil): this is a medicine placed in the vagina to make the cervix favorable.
Sometimes, it also starts labor. Oxytocin (Pitocin) will be started at a low dose and gradually increased until you
have regular, painful contractions. The side effects are related to the amount given and can result in too many
contractions in a short time (hyperstimulation) that may cause a temporary drop in the baby’s heart beat. Rarely,
hyperstimulation can lead to early separation of the placenta or afterbirth (abruptio placentae) or rupture of the
uterus. If hyperstimulation occurs, the Pitocin may be temporarily stopped until contractions have slowed down and
the baby’s heart beat has returned to normal.

The alternative to induction of labor is to wait for labor to start spontaneously. I understand the risks and benefits of
this procedure and wish to proceed.

Patient Signature

Date

Time

Witness Signature

Date

Time

Physician Signature

Date

Time

FOR HOSPITAL USE ONLY: Medical indication for induction identified. Telephone informed consent was provided by patient’s physician.
Physician Name ___________________________ RN (print name) __________________ RN Signature _______________
Admission
- Admit to Inpatient LDRP
  - Induction: Indication ____________________________ Cervical Exam in Office _____________
  - Augmentation: Indication ____________________________

Diagnosis
Intrauterine pregnancy ________ weeks of gestation for: ____________________________

Vital Signs/Monitoring
- Vital signs per unit standard of care
- Continuous fetal monitoring
- IF unable to obtain continuous external ultrasound FHR tracing, place fetal spiral electrode only after rupture of membranes
- IF unable to obtain continuous toco transducer tracing of uterine activity, place IUPC

Activity
- Bath privileges
- May ambulate at bedside with continuous fetal monitoring

Nursing Instructions
Notify physician if:
- Category III fetal heart rate pattern, begin intrauterine resuscitation
- Category II tracing – following policy and procedure for intrauterine resuscitation (WS#1.7)
- Cervical Ripening Agent or Oxytocin cannot be administered as ordered (see Cervical Ripening/Oxytocic Agents)
- Meconium stained fluid
- Vaginal Exam on admission
- Strict I & O
- Obtain copy of Prenatal Record with copy of original laboratory results
- Complete Pre–Oxytocin Checklist
- Verify signed consent for Vaginal Delivery with Possible Episiotomy
- IF Postpartum Tubal Ligation is planned, verify BOTH signed state consent and informed consent for Postpartum Tubal Ligation
- Screen per protocol for Tdap and Influenza Vaccines
- IF patient unable to void OR has urinary retention, straight cath bladder
- IF patient unable to void OR has urinary retention, urinary catheter to gravity drainage. Remove prior to pushing.

Diet
- Nothing by mouth (NPO)−give oral meds
- Clear Liquids

Physician Initials: _______________
IV Fluids/Medications
- Insert saline lock
- Lactated Ringers IV at 150 mL/hour on admission

After delivery of placenta, if blood loss less than 500 mL AND No active bleeding:
- Oxytocin (Pitocin) 20 units/Sodium Chloride 0.9% 1000 mL IV at 500 mL/hour X 1 hour THEN
  - Oxytocin (Pitocin) 20 units/Sodium Chloride 0.9% 1000 mL IV at 125 mL/hour X 3 hours

- Patient is diabetic, mix IVPB medications in Sodium Chloride 0.9% when possible

Medications
Cervical Ripening/Oxytocic Agents

IF Uterine Contractions less than 13/hour:
- Misoprostol (Cytotec) 25mCg (1/4 of 100 mCg tablet), inserted into posterior fornix of vagina every 4 hours to a maximum of 6 doses
  - IF Oxytocin (Pitocin) ordered, wait at least 4 hours after last Misoprostol dose
- Dinoprostone (Cervadil) 10 mG Vaginal Insert, place transversely in the posterior fornix of vagina
  - Remove at onset of active labor OR for tachysystole AND 12 hours after insertion
  - Notify physician if Bishop Score remains less than 7 after 12 hours
  - IF Oxytocin (Pitocin) ordered, wait at least 30 minutes after removal of Dinoprostone insert

IF Bishop Score greater than 8 OR Cervical Ripening Agent contraindicated, GIVE:
- Oxytocin (Pitocin) 20 units/Sodium Chloride 0.9% 1000 mL IV at 2 milliunits/minute.
  - Increase by 2 milliunits every 30 minutes until adequate uterine activity achieved as evidenced by cervical change
- IF on Prenatal Vitamins or Iron supplement discontinue

Physician Initials: _______________
Antibiotics – Choose ONLY one – For positive Group B–Strep (GBS) culture or PCR result or unknown GBS status

1. **No** Penicillin or Cephalosporin Allergy
   - Ampicillin 2 Grams IVPB STAT, **THEN**
     - Ampicillin 1 Gram IVPB every 4 hours until delivery
   OR
   - CeFAZolin (Ancef) 2 Grams IVPB STAT, **THEN**
     - CeFAZolin (Ancef) 1 Gram IVPB every 8 hours until delivery
   OR

2. Penicillin or Cephalosporin allergy **WITHOUT** Anaphylaxis, Facial Swelling, Shortness of Breath or Hives **AND** Group B–Strep is sensitive to Clindamycin (Cleocin) on culture
   - Clindamycin (Cleocin) 900 mG IVPB STAT, **THEN**
     - Clindamycin (Cleocin) 900 mG IVPB every 8 hours until delivery
   OR

3. Penicillin or Cephalosporin allergy **WITH** Anaphylaxis, Facial Swelling, Shortness of Breath or Hives **AND** Group B–Strep resistant to Clindamycin (Cleocin) on culture **OR** sensitivity unknown
   - **IF** weight LESS than 80 kg **GIVE** Vancomycin 1 Gram IVPB STAT over 1 hour **THEN**
     - Vancomycin 1 Gram IVPB every 12 hours until delivery
   OR
   - **IF** weight GREATER than 80 kg **GIVE** Vancomycin 1 Gram IVPB STAT over 1 hour **THEN**
     - pharmacy to dose Vancomycin
   - **IF** Creatinine on Basic Metabolic Panel GREATER than 1.5, notify pharmacy to dose Vancomycin after STAT dose

**Analgesics**
- Epidural for labor pain at patient’s request – Discontinue after delivery

**CHOOSE ONE CATEGORY ONLY FROM LABOR PAIN COPING SCALE (LPCS)**

**Moderate Pain (LPCS level 3–requires coaching, pain medication and interventions)**
- FentaNYL (Sublimaze) 100 mCg IV push every hour PRN x 3 doses. Hold for respirations Less than 10 **OR** sedation scale 4 or Greater
  - **OR**
    - Nalbuphine (Nubain) 10 mG IV Push every 2 hours PRN
    - **OR**
      - Butorphanol (Stadol) 2 mG IV Push every 2 hours PRN

**Severe Pain (LPCS Level 4–requires intense coaching, inadequate pain relief)**
- Hydromorphone (Dilaudid) 1 mG IV Push every 2 hours PRN
  - **OR**
    - Morphine 8 mG IV Push every 2 hours PRN
Fetal Resuscitation

**IF** Category II or Category III fetal heart rate pattern occurs, initiate Intrauterine Resuscitation Policy (WS#1.7)

PRN including:

- Reposition
- Decrease or discontinue Oxytocin (Pitocin)
- Lactated Ringers 500 mL IV over 15 minutes
- O2 at 10 L/minute via non-rebreather facemask and remove when Category II or Category III heart rate pattern resolves
- Terbutaline (Brethine) 0.25 mg SQ STAT for tachysystole

**Laboratory**

- CBC
- RPR
- Type & Screen

**IF** unknown GBS status (collect in labor, if unable, collect after delivery), obtain cervical specimen for Group B Strep PCR as soon as possible

**IF** Hepatitis B status is unknown, order Hepatitis B surface Antigen (HBsAg)

**IF** results unknown, draw Rubella titer

**IF** HIV status not documented on prenatal record order Rapid HIV Screening test (patient must be informed before ordered)

**IF** Vancomycin ordered, order Basic Metabolic Panel

**Additional Orders**

________________________________________________________________________________________

________________________________________________________________________________________

________________________________________________________________________________________

________________________________________________________________________________________

________________________________________________________________________________________

Date: ___________ TIME: ___________  Physician Signature: ____________________________  RBO

Date: ___________ TIME: ___________  Noted: ________________________________________

PATIENT I.D. LABEL

eTEST_PVHMCPATIENT
09/11/1914   093 M
08/03/2008  005555555 x

eTEST PROVIDER M.
2W 0218 B0

________________________________________________________________________________________

ADMISSION ORDERS
LABOR – INDUCTION/AUGMENTATION
Page 4 of 4
For All Cesarean Sections

Gestational Age: _______ weeks _______ days EDC ______________

Procedure being performed:
- Primary Cesarean Section
- Repeat Cesarean Section

Consent Obtained:
- Yes
- No

Primary Cesarean Section Indication:
- Previa
- Breech
- Multiple Gestation
- Failure to progress _______ cm X _______ hrs
- Arrest of Descent _______ Station X _______ hrs
- Fetal Intolerance ____________________________________________________________
- Other _______________________________________________________________________

Repeat Cesarean Section Indication:
- 39 weeks or greater
- Active Labor
  - Cervical exam at admission ________________
  - Cervical exam at time of Cesarean Section ________________
- SPROM
- PIH Blood Pressure _______ Protein _______
- Other _______________________________________________________________________

If less than 34 weeks gestation:
- Received full course of steroids. Betamethasone 12 mg IM x 2 doses, 24 hours apart
  OR Dexamethasone 6 mg IM x 4 doses, 12 hours apart.
- Did not receive full course of steroids
  - Imminent delivery
  - Category III Tracing prior to 24 hours
  - Other _______________________________________________________________________

Additional Notes:
____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________

Date: ____________ TIME: _______ Physician Signature: ________________________________

PATIENT I.D. LABEL

eTEST PVHMC-PATIENT
09/11/1914 093 M
08/03/2008 00555555 x
eTEST PROVIDER M.
2W 0218 B0

POMONA VALLEY HOSPITAL
MEDICAL CENTER

CESAREAN SECTION PRE-OPERATIVE NOTE
PURPOSE
To provide a guideline for the use of prostaglandin agents when used to initiate labor or effect physical softening and distensibility of the cervix (cervical ripening) in preparation for labor and birth.

POLICY
1. Cervical ripening is recommended for patients undergoing an induction with a Bishop Score of less than 8.
2. Cervical ripening may be carried out by the LDRP Registered Nurse (RN) with the written order of a physician.
3. The patient must have an informed consent for an induction of labor provided by her physician and documented in the prenatal record or admission progress note.
4. The following should be assessed and documented in the chart prior to initiating induction by administration of a cervical ripening agent:
   a. Indication for Induction
   b. Bishop Score
   c. Fetal presentation
5. Continuous electronic fetal monitoring (external or internal) is required.

INDICATIONS
Indications for Induction/Augmentation include:
1. Vascular diseases that are life threatening to the mother or infant in her second or third trimester.
2. Preeclampsia
3. Rh incompatibility
4. Diabetes
5. Premature Rupture of Membranes (PROM)
6. Preterm Premature Rupture of Membranes (pPROM)
7. Chorioamnionitis
8. Term pregnancy greater than 39 weeks with a favorable cervix
9. Biophysical profile less than 6 or Oligohydramnios
10. Uterine dystocia – Poor quality contractions that do not produce cervical change.
11. Prevention of prolonged labor
12. Post Dates greater than 41 weeks gestation

CONTRAINDICATIONS
1. Contraindications for cervical ripening, induction or augmentation of labor are the same as those for any contraindication to a vaginal delivery.
2. Use of Prostaglandins for cervical ripening in patients with a previous cesarean section is not recommended. *(ACOG, 2004, 2006b, 2009)*
CONSIDERATIONS
For elective delivery at 39 completed weeks the following criteria must be met:
1. Fetal heart tones have been documented for 20 weeks by non-electronic fetoscope or for 30 weeks by Doppler.
2. It has been 36 weeks since a serum or urine human chorionic gonadotropin pregnancy test was found to be positive by a reliable laboratory.
3. Ultrasound measurement of the crown-rump length at 6-11 weeks of gestation supports a gestational age equal to or greater than 39 weeks.
4. Ultrasound measurement at 12-20 weeks of gestation supports a clinically determined gestational age of 39 weeks or greater.
5. For elective delivery at less than 39 completed weeks of gestation, and none of the above criteria are met, fetal pulmonary maturity should be confirmed by amniocentesis.

**DINOPROSTONE (CERVADIL)** – a prostaglandin preparation used to ripen the cervix.

CONSIDERATIONS
1. Oxytocin and Cervadil are not to be administered concurrently.
2. Cervadil attenuates the contractile response to Oxytocin therefore administration of Oxytocin should be delayed for 30 minutes after removal of cervadil insert.
3. Cervadil can cause tachysystole.
4. How prepared: Dinoprostone (Cervadil) 10 mG vaginal insert

EQUIPMENT
1. Sterile gloves
2. Cervadil insert
3. Lubricant

PROCEDURE
1. Ensure patient has had informed consent from her physician with documentation in the prenatal record or admission progress note.
2. Obtain patient’s written consent.
3. Explain procedure to patient.
4. Apply continuous Fetal Monitor to assess Uterine Activity and assure Category I FHR pattern prior to insertion of Cervadil.
5. Obtain Cervadil from pharmacy.
6. Assist patient to empty bladder.
7. Vital signs before insertion and 15 minutes after insertion, then routine as for laboring patient.
8. Registered Nurse to insert Cervadil by positioning the insert between the index and middle fingers. Place it transversely in the posterior fornix of the vagina with its long axis transverse to the long axis of the vagina. Ensure cord remains attached to Cervadil disk and long end protrudes from introitus to facilitate removal.
9. Remove Cervadil for the following:
   a. For Tachysystole accompanied by FHR Category II or Category III.
   b. After 12 hours
   c. Upon onset of active labor
Oxytocin may be started 30 minutes after removal of Cervadil.

**MISOPROSTOL (CYTOTEC)** – a prostaglandin preparation used for the purpose of cervical ripening prior to, and for induction of labor.

**INDICATIONS**
The same as for any induction.

**CONTRAINDICATIONS**
1. The same as those for any induction.
2. Additional contraindications for the use of misoprostol include:
   a. Hypersensitivity to prostaglandin compound.
   b. Clinically significant asthma.
   c. Heart disease.
   d. Frequent uterine contractions (more than 13 per hour).
   e. Multiple gestation.
   g. Polyhydramnios
   h. Patient refusal.

**CONSIDERATIONS**
1. Oxytocin and Misoprostol are not to be administered concurrently.
2. Plasma concentrations of Misoprostol rise gradually and decline slowly. Therefore Oxytocin administration may be initiated no sooner than 4 hours after last dose of Misoprostol.
3. Misoprostol can cause tachysystole.

**PROCEDURE**
1. Ensure patient has had informed consent from her physician with documentation in the prenatal record or admission progress note.
2. Prepare equipment and obtain 25 micrograms of Misoprostol.
3. Perform vaginal examination and Leopold’s maneuvers to determine presentation and lie.
4. Prepare patient for insertion and explain procedure.
5. Perform baseline assessment.
6. Record temperature, pulse, respiration, and blood pressure.
7. Apply continuous Fetal Monitor to assess Uterine Activity and assure Category I FHR pattern prior to Misoprostol administration.
8. LDRP RN may place Misoprostol in the posterior fornix of the vagina every 4 hours to a maximum of 6 doses.
9. Re-dosing is withheld if:
   a. The patient has 3 or more uterine contractions in a 10-minute period.
   b. Adequate cervical ripening is achieved (Bishop Score is >9 or cervical examination shows dilation greater than 3 centimeters and effacement > 80%).
c. Fetal heart rate tracing is Category II or Category III.

MONITORING
1. Continuous monitoring of FHR and Uterine Activity is required.
2. Ensure patient remains in the supine position using a hip wedge, for 30-minutes after each dose.
3. After initial 30 minutes, the patient may ambulate with continuous fetal monitoring.

DOCUMENTATION
2. Electronic Fetal Strip: time of administration and interventions.

REFERENCE

APPROVALS
Perinatal Committee – 10/05, 1/06, 4/07, 2/08, 11/08, 9/22/2010
Your doctor may recommend the use of a medication called Oxytocin (Pitocin) to increase the amount and/or strength of your contractions. This is called "Augmentation" and is used when your contractions do not result in continuing cervical dilation or movement downward (descent) of your baby.

Your current cervical exam is _________ cm dilated and ________% effaced.
Your baby’s head is at _________ station.
Station tells you the location of your baby on its way down the birth canal. Negative numbers mean the baby is higher in the pelvis, positive means lower in the pelvis.

Oxytocin (Pitocin) will be started at a low dose and gradually increased until you have regular contractions. These contractions should be stronger than the ones you will be having and therefore should be more effective in causing further dilation. The side effects are related to the amount given; therefore the dose is closely monitored by your nurse and physician. If there are too many contractions in a short time (hyperstimulation), a temporary drop in the baby’s heartbeat may occur. If hyperstimulation occurs and heartbeat drops, the Pitocin will be stopped until the contractions have slowed down and the baby’s heartbeat has returned to normal. Rarely, hyperstimulation can lead to early separation of the placenta or afterbirth (abruptio placentae) or rupture of the uterus; either of these complications would require a Cesarean Section.

The alternative to Pitocin augmentation is to continue labor without assistance. There are risks to prolonged or ineffective labor that include:

- Increased risk of infection in your baby
- Hemorrhage (excessive bleeding)
- Increased risk of infection in you
- Increased need for Cesarean Section

My doctor has explained these risks and benefits; I understand and wish to proceed with augmentation.

Su médico está recomendando el uso de un medicamento denominado oxitocina (Pitocin) para aumentar la cantidad y/o intensidad de las contracciones. Eso se conoce como "inducción de contracciones uterinas" y se usa cuando las contracciones no dan lugar a contracciones cervicales continuas ni al desplazamiento decendente (hacia abajo) de su bebé.

Su examen cervical actual indica _______ cm de dilatación y un ________ % de borramiento del cuello uterino. La cabeza de su bebé se encuentra en la estación __________. Las estaciones indican la ubicación del bebé en vías del parto. Un número negativo significa que el bebé se encuentra más arriba en la pelvis y uno positivo que se encuentra más abajo.

Se comenzará a administrar oxitocina (Pitocin) a una dosis baja y se aumentará gradualmente hasta que presente contracciones regulares. Éstas contracciones deben ser más intensas de las que tiene acutalmente y por lo tanto deben ser más eficaces en producir una mayor dilatación. Los efectos secundarios están asociados con la cantidad de medicamento administrado; por lo tanto, su enfermera y médico darán seguimiento estrecho a las dosis. Si se producen demasiadas contracciones durante un período breve (hiperestimulación), puede ocurrir un descenso temporal en los latidos del corazón de su bebé. Si ocurre hiperestimulación y se reducen los latidos cardíacos, se suspenderá el uso de Pitocin hasta que disminuyan las contracciones y los latidos del bebé se normalicen. En raras ocasiones la hiperestimulación puede causar la separación prematura de la placenta o expulsión de secundinas (abruptio placentaria) o desgarramiento del útero. Estas complicaciones requieren practicar parto por cesárea.

La alternativa a la inducción con de contracciones uterinas con Pitocin es seguir con el trabajo de parto sin ayuda. Hay riesgos asociados con un trabajo de parto prolongado o ineficaz, por ejemplo:

- Mayor riesgo de infección para el bebé
- Mayor riesgo de infección para usted
- Hemorragia (sangrado excesivo)
- Mayor necesidad de un parto por cesárea

Mi médico me ha explicado estos riesgos y beneficios. Entiendo los mismos y deseo proceder con el procedimiento de inducción de contracciones uterinas.

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Patient Signature/Firma de la paciente

Witness Signature/Firma del testigo

Physician Signature/Firma del médico

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Date/Fecha Time/Hora

Date/Fecha Time/Hora

Date/Fecha Time/Hora

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PATIENT I.D. LABEL

MOUSE MICKEY

09/11/1914 093 M

08/03/2008 005555555 X

SHIVARAM SUNIL M.

2W 0218 B0

CONSENT FOR AUGMENTATION

ORIGINAL− CHART COPY−PATIENT

34820

(02/09)
PURPOSE
To provide guidelines for the care of a woman undergoing an induction or augmentation of labor. The goal of induction of labor is to achieve vaginal delivery by stimulating uterine contractions before the spontaneous onset of labor. The goal of augmentation of labor is to enhance inadequate uterine contractions.

POLICY
Intravenous oxytocin (Pitocin) as ordered by the physician and clinically and or psychosocially indicated may be used to induce or augment uterine contractions providing the following criteria are met:

A. Personnel who are familiar with the effects of oxytocin and able to identify both maternal and fetal complications will be in attendance during the administration of oxytocin.
B. The patient’s prenatal record will be on the patient’s chart before the induction is started to confirm gestational age of 39 weeks for non-medically or clinically indicated inductions.
C. Once the infusion is started, the physician must be readily available to manage any complications, including an emergency cesarean delivery. ACOG(1999)

CONTRAINDICATIONS
Generally, the contraindications to labor inductions are the same as those for spontaneous labor and vaginal delivery. They include, but are not limited to, the following situations:

A. Vasa previa or complete placenta previa
B. Unfavorable fetal positions or presentations which are undeliverable without conversion prior to delivery i.e. transverse lie.
C. Umbilical cord prolapse
D. Previous transfundal uterine surgery ACOG(1999)

EQUIPMENT
A. Electronic Fetal Monitor
B. Primary IV solution per physician order
C. IV with Oxytocin as ordered by physician per preprinted Induction/Augmentation Physician Orders
D. Automatic infusion pumps
E. Sterile exam gloves

PROCEDURE
I. Complete assessment to obtain baseline values of mother and fetus as follows:

A. Determine baseline blood pressure, pulse, respirations and temperature on mother.
B. Determine baseline fetal heart rate via electronic continuous fetal monitoring, documenting baseline FHR, and variability, the presence of periodic or episodic accelerations and decelerations and uterine contraction pattern. Monitor for a minimum of 30 minutes to assess fetal well being.
II. Review the patient’s chart for induction indications, medical and nursing assessment of fetal/maternal status and clarity of physician’s orders.

III. Complete the pre-Oxytocin checklist and document in the electronic medical record. (See Addendum)

IV. Verify informed consent for induction or augmentation of labor.

V. Confirm gestational age.

VI. Immediately prior to starting the Oxytocin infusion, a pelvic examination of the patient is done by the physician or competent RN. For a Bishop Score of less than 7, contact physician for orders / contraindications for cervical ripening agent.

VII. Insert intravenous catheter and begin infusion of main-line IV solution as ordered by Physician.

VIII. Use Premixed infusion obtained from Medication Administration System: 20 units Oxytocin in 1000 ml 0.9% Normal Saline Solution and connect to IV tubing without injection ports.

IX. Obtain electronic infusion pump.

X. Label tubing with Oxytocin label at point of insertion site and at pump. Connect Oxytocin infusion at port closest to insertion site.

XI. Start Oxytocin at 2 milliunits/minute via infusion pump as ordered per preprinted Induction/Augmentation Physician Orders.

XII. Place the patient on strict intake and output monitoring.

XIII. Maintain the induction as follows:

A. The fetal heart rate and contraction pattern will be evaluated and documented as follows:
   1. When starting Oxytocin infusion
   2. 15 minutes after initiating infusion and after any rate adjustments (increase or decrease)
   3. Q 30 minutes during maintenance

B. For a Category III fetal heart rate tracing, discontinue Oxytocin and initiate intrauterine resuscitation measures as indicated. Contact primary physician immediately.

C. For Tachysystole (a uterine contraction pattern of more than 5 UCs in a 10 minute window) perform the following interventions:
   1. Category I Tracing – reposition to lateral recumbent and administer 500 mL IV bolus of mainline fluid and observe for 15 minutes. If Tachysystole unresolved 15 minutes after intervention, decrease Oxytocin rate by ½ and observe for additional 15 minutes. If Tachysystole unresolved after 30 minutes, discontinue Oxytocin and notify primary physician.
   2. Category II tracing: Recurrent variable or late decelerations with moderate variability – Reduce Oxytocin infusion rate by ½, reposition patient to lateral recumbent and give 500 mL IV bolus of mainline fluid. Observe for 15 minutes. If no improvement, discontinue Oxytocin infusion and notify primary physician.
3. **Category II tracing: recurrent variable or late decelerations with minimal variability** – Discontinue Oxytocin, reposition to lateral recumbent, administer 500 mL IV bolus of mainline fluid and observe for 15 minutes. Consider administration of oxygen and/or tocolytic mediation (Terbutaline 0.25 mg SQ X 1)

4. When Tachysystole resolves:
   a. If Oxytocin has been off less than 30 minutes, restart at ½ the rate when discontinued.
   b. If Oxytocin has been off longer than 30 minutes, restart at 2 milliunits/minute and increase per induction/augmentation physician orders.

D. Maternal blood pressure and pulse will be monitored and recorded q 30 minutes.

E. Advance to next dosage level per L&D Oxytocin Department Order Set every 30 minutes until adequate labor as uterine activity indicates, not to exceed 2 mU/min (12 ml/hr) every 30 minutes and to a maximum dose of 20 mU/min (120ml/hr.)

F. When 20 mU/min. has been reached if patient is not in labor as evidenced by cervical change, notify physician and when ordered by physician, Oxytocin infusion may be increased beyond 20 mU/ min but must have an IUPC in place.).

G. Once an effective contraction pattern is established (5 contractions or less in 10 minutes, lasting 90 seconds or less, and moderate in strength as indicated by palpation or 50-70mmHg via IUPC) hold the oxytocin at that rate or decrease the infusion and determine if a regular contraction pattern will be maintained.

XII. **OXYTOCIN INFUSION RATE GUIDE**

The following guide for infusing Oxytocin to induce or augment labor may be used for a solution of 20 units Oxytocin in 1000 mL of IV fluid. This mixture gives 20 milliunits per milliliter. (20 mU/mL).

<table>
<thead>
<tr>
<th>Dosage in mU/min</th>
<th>Flow Rate ml/hr</th>
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**DOCUMENTATION**

Document the following in the electronic documentation system:

I. Dosage of oxytocin in mU/mL, amount and type of solution.

II. Rate of flow of oxytocin, increased, decreased, discontinued or restarted.

III. Baseline Fetal heart rate, Baseline FHR variability, Presence of accelerations, Periodic or episodic decelerations, Changes or trends of FHR pattern over time and contraction pattern, including frequency, duration and intensity every 30 minutes and with dose changes.

IV. Blood pressure and pulse q 30 minutes.

V. Vaginal exams with findings.

VI. Adjustments to the monitor.

VII. Intake and Output.

VIII. Physician notifications.

**REFERENCES**


**APPROVALS**


Perinatal Committee – 10/08

OB Committee – 10/08, 4/2012