POLICY

A physician’s order is required for augmentation of labour. Registered Midwives must obtain a consultation for administration of oxytocin for augmentation of labour.

Family Practice physicians must obtain an Obstetrical consultation for labour augmentation for the following indications:
- increasing the dose of oxytocin over 20 milliunits per minute.
- Second stage of labour - commencing oxytocin for labour augmentation

Applicability: Augmentation of labour occurs in the Birthing area of the Acute Perinatal Program.

PROCEDURE

Registered Nurse (RN)

1.1 Gather Materials
- Fetal Monitor and attachments
- Infusion Pump
- Intravenous (IV) catheter, #18
- Normal saline 1000 millilitres (mL) for the mainline intravenous (IV)
- Normal saline with 5% Dextrose (D5NS), 500 mL
- Oxytocin - 3 ampoules of 10 international units (IU)

1.2 Assessment and Preparation
Complete Pre-Oxytocin Checklist for Induction or Augmentation of Labour/Oxytocin Administration Guide

1.3 Medication Administration
Verify the physician’s order for augmentation: IV solution, medication concentration and maximum dosage to be administered.
- Establish an IV mainline of normal saline and place on an infusion pump.
- Prepare a secondary solution by diluting oxytocin - 30 IU in 500 mL IV bag of D5NS.
- Place the oxytocin infusion solution on an infusion pump, see Infusion Therapy Pumps
- Piggyback oxytocin infusion into mainline at the IV port closest to the IV insertion site.

1.4 Titration of Oxytocin

<table>
<thead>
<tr>
<th>Concentration</th>
<th>Equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 IU in 500 mL D5NS</td>
<td>1 milli Unit/minute (mU/min = 1 millilitre/hour (mL/hr))</td>
</tr>
</tbody>
</table>

START oxytocin infusion at 1 - 2 mU/min = 1 or 2 mL/ hr

<table>
<thead>
<tr>
<th>Dose</th>
<th>Titration Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low dose</td>
<td>Increase by 1 - 2 mU/min at 30 minute intervals or until regular uterine activity is established</td>
</tr>
<tr>
<td>High dose</td>
<td>Increase by 2 - 4 mU/min at 30 minute intervals or until regular uterine activity is established</td>
</tr>
</tbody>
</table>

- Record oxytocin dosage in mU/min every 30 minutes.
- Monitor intake and output - total IV intake 125 mL/ hr
- Balance the oxytocin infusion and normal saline infusion in order that the total IV intake does not exceed 125 mL/hr unless, otherwise ordered by the physician.
Note: Oxytocin has been shown to have an intrinsic antidiuretic effect.

1.5 Oxytocin Dosage Guidelines for Augmentation of Labour:

<table>
<thead>
<tr>
<th>Physician</th>
<th>Maximum dosage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Practice</td>
<td>Family Physician reassesses when 20 milliUnit/minute is reached and consults with an Obstetrician when increasing the dose is indicated.</td>
</tr>
<tr>
<td>Obstetrical Practice</td>
<td>Obstetrician/Obstetrical resident reassesses when 20 milliUnit/minute is reached.</td>
</tr>
</tbody>
</table>

Continue oxytocin at the minimum level required to achieve an adequate contraction pattern and progressive cervical dilatation.

Low Dose Criteria: All others

High Dose Criteria: Nulliparous women in first stage of labour with a singleton pregnancy

1.6 Fetal Assessment during Labour Augmentation

<table>
<thead>
<tr>
<th>Low Risk Woman</th>
<th>Require:</th>
</tr>
</thead>
<tbody>
<tr>
<td>With no evidence of fetal compromise or significant maternal medical disease having an augmentation of labour with oxytocin</td>
<td>Continuous electronic fetal monitoring (EFM):</td>
</tr>
<tr>
<td></td>
<td>- If the dose of oxytocin is at a stable rate and there is a normal tracing, the EFM may be removed for up to 30 minutes so the woman may ambulate</td>
</tr>
<tr>
<td></td>
<td>- Assess the FHR by IA at 15 minute intervals while the EFM is off</td>
</tr>
<tr>
<td></td>
<td>Resume continuous EFM after 30 minutes or when oxytocin dosage is changed or fetal assessment by IA is not normal.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>High Risk Woman</th>
<th>Require:</th>
</tr>
</thead>
<tbody>
<tr>
<td>With evidence of fetal compromise or significant maternal medical disease having an induction of labour with oxytocin</td>
<td>Continuous EFM</td>
</tr>
</tbody>
</table>

Atypical Fetal Heart Rate Patterns:

When an atypical fetal heart rate pattern occurs over period of 20 -30 minutes:
1. Notify care provider
2. Initiate intrauterine resuscitation (maternal position changes, hydration)
3. Consider decreasing or stopping oxytocin
4. Determine cause of atypical pattern
5. Determine duration of effect and reserve tolerance of the fetus
6. Perform fetal scalp stimulation and/or obtain fetal blood sampling
7. Evaluate total clinical picture
8. Continue continuous EFM

Abnormal Fetal Heart Rate Patterns:

When an abnormal fetal heart rate pattern is identified:
1. Initiate intrauterine resuscitation:
   - Change maternal position to left or right lateral
   - Improve hydration with IV fluid bolus - Bolus with 250 mL normal saline IV over 10 minutes (unless contraindicated by maternal condition)
2. Stop oxytocin
3. Notify care provider
4. Administer oxygen by mask 8-10 L/minute - avoid prolonged use
5. Perform vaginal examination to relieve pressure on cord
6. Consult an obstetrician
7. Notify the physician if tachysystole persists/difficulty achieving the desired uterine activity
8. If fetal heart rate pattern and uterine activity are normal after 30 minutes resume titrating the oxytocin infusion.

1.7 Maternal Assessment
Assess uterine activity every 15 minutes.
Document on Partogram contraction frequency, strength, and resting tone every 30 minutes

<table>
<thead>
<tr>
<th>Regular uterine activity</th>
<th>• 3 - 4 moderate to strong contractions per 10 minute period, lasting 60 seconds with normal uterine resting tone and at least 60 seconds between the end of one and the beginning of the next contraction.</th>
</tr>
</thead>
</table>
| Tachysystole             | • Greater than (> 5) contractions per 10 minutes over a period of 30 minutes or  
                          • One contraction lasting longer than 2 minutes |

When tachysystole occurs with a normal fetal heart rate pattern:
When tachysystole occurs with a normal fetal heart rate pattern:
1. Decrease the oxytocin infusion dose to achieve the desired uterine activity
2. Notify the physician if tachysystole persists or there is difficulty achieving the desired uterine activity
3. If uterine activity pattern is normal after 30 minutes, resume titrating oxytocin infusion
5. Notify care provider if tachysystole does not resolve within 30 minutes

When tachysystole occurs with an atypical fetal heart rate pattern:
1. Initiate intrauterine resuscitation:
   - Change maternal position left or right lateral
   - Improve hydration with IV fluid bolus - Bolus with 250 mL normal saline IV over 10 minutes (unless contraindicated by maternal condition)
2. Decrease or stop oxytocin
3. Notify care provider
4. Call for assistance from charge RN

When tachysystole occurs with an abnormal fetal heart rate pattern:
1. Initiate intrauterine resuscitation:
   - Change maternal position to left or right lateral
   - Improve hydration with IV fluid bolus - Bolus with 250 mL normal saline IV over 10 minutes (unless contraindicated by maternal condition)
2. Stop oxytocin
3. Notify care provider
4. Administer oxygen by mask 8-10 L/minute - avoid prolonged use
5. Consult an obstetrician
6. Notify the physician if tachysystole persists or there is difficulty achieving the desired uterine activity
7. If fetal heart rate pattern and uterine activity are normal after 30 minutes resume titrating the oxytocin infusion.
8. Consider Nitroglycerin if tachysystole persists.
9. Discontinue oxytocin when decision is made to perform a Cesarean section.

DOCUMENTATION

- Added Medication Label
- Fetal Monitoring Label
- Interprofessional Progress Notes
- Labour Partogram
- Physician’s History and Progress Notes
- Physician’s Orders
- Physician’s Orders – Oxytocin Infusion for Induction/Augmentation of Labour
- Pre-Oxytocin Checklist for Induction or Augmentation of Labour

REFERENCES


Infusion Therapy Pumps: Use

Intrapartum Electronic Fetal Heart Monitoring


Nitroglycerin: Administration - Short Term Uterine Relaxation


Society of Obstetricians and Gynecologists of Canada (SOGC): Clinical Practice Guidelines: