Oxytocin regime for augmentation or induction of labour guideline (GL925)

Approval

<table>
<thead>
<tr>
<th>Approval Group</th>
<th>Job Title, Chair of Committee</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternity &amp; Children’s Services Clinical Governance Committee</td>
<td>Chair, Maternity Clinical Governance Committee</td>
<td>4th November 2016</td>
</tr>
</tbody>
</table>

Change History

<table>
<thead>
<tr>
<th>Version</th>
<th>Date</th>
<th>Author, job title</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.1</td>
<td>Nov 2016</td>
<td>C Harding (Consultant MW)</td>
<td>Pg 3 Maintaining infusion chart – changed from 15 to 30 mins</td>
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<tr>
<td>9.2</td>
<td>April 2017</td>
<td>C Harding (Consultant MW)</td>
<td>Pg 3 Practice Initiation of treatment 1. Amended to remove MWs administration for augmentation &amp; slow progress in the first stage of labour in Primigravida patients Pg 8 Monitoring Standards table – 2nd box amended to increase dose interval from 15 to 30 mins</td>
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</tbody>
</table>
Overview: Oxytocin is the drug prescribed to induce, or augment uterine activity, once the membranes holding liquor around the fetus have ruptured. It is administered intravenously, with the dose being titrated against the frequency and duration of uterine activity, and with the fetal heart rate being monitored continuously with electronic monitoring devices.

Risk Assessment
Prior to administration of an Oxytocin infusion, the midwife and obstetrician must consider the following:

- Parity
- Multiple pregnancy
- Uterine contractions
- Fetal gestation, presentation, station, position on abdominal palpation and vaginal examination
- Fetal wellbeing should be ascertained by doing a normal 30 minute CTG tracing prior to commencement of infusion
- Membranes should be ruptured
- Mothers emotional wellbeing and pain management. An epidural may be recommended.
- Maternal consent should be obtained and risks explained. This should be recorded in the mothers’ notes.

Risks of use of Oxytocin in labour: increase level of pain, uterine hyperstimulation, fetal distress and uterine rupture.

- Complete risk assessment sticky label (unless using electronic patient records) for use of Oxytocin in first stage and complete an individualised action plan for the management. Adhere to the patient’s notes within the text. Midwives should ensure that there is a physical review of any multiparous mother before Oxytocin is prescribed. Case discussion alone is inadequate risk assessment.

Augmentation of labour for delay in first stage of labour
Diagnosis of delay in first stage of labour needs to take into consideration all aspects of progress in labour and should include:

- Cervical dilation of <2cms in 4 hours for first labours
- Cervical dilation of <2cms in 4 hours of slowing in the progress of labour for second or subsequent labours
- Descent of the fetal head
- Changes in the strength, duration and frequency of uterine contractions

Oxytocin should not be prescribed to a mother with a uterine scar or breech presentation in labour without discussion with the duty consultant.
**Practice:**

**Initiation of treatment:**

1. Only obstetric consultants and specialist trainee should prescribe Oxytocin having first made a full assessment of the woman in person.

2. Oxytocin 30 IU must be administered to a full 500ml bag of N-Saline and a drug additive label attached – stating the name of the drug, the dose and the batch numbers.

3. Oxytocin may only be added by those members of staff certified as competent to mix intravenous solutions or a member of staff undergoing training and watched by a certified member of staff.

4. The infusion should be administered via a Fresenius volumetric pump.

5. Start infusion immediately after artificial rupture of the membranes (ARM), or after spontaneous rupture of the membranes according to local clinical guidelines (see pg 8 titled Pre-Labour rupture of membranes in the guideline Induction & augmentation of PLRoM for prolonged labour GL925).

**Maintaining the infusion:**

<table>
<thead>
<tr>
<th>Oxytocin infusion rate (30iu in 500mls normal saline)</th>
<th>Increase infusion rate every 30 minutes to deliver the dose below to establish at least 3 but no more than 5 contractions in 10 minutes lasting no longer than 60 seconds (in milli-units)</th>
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<tbody>
<tr>
<td>1ml/hr</td>
<td>1 mu*</td>
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<tr>
<td>2ml/hr</td>
<td>2 mu*</td>
</tr>
<tr>
<td>4ml/hr</td>
<td>4 mu*</td>
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<tr>
<td>8ml/hr</td>
<td>8 mu*</td>
</tr>
<tr>
<td>16ml/hr</td>
<td>16 mu*</td>
</tr>
<tr>
<td>24ml/hr</td>
<td>24 mu*</td>
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<tr>
<td>32ml/hr</td>
<td>32 mu</td>
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6. The dose of Oxytocin being administered should be recorded on the partogram reflecting increases/decreases in the dose. All adjustments to the dose should be recorded on the CTG tracing, if not using electronic CTG records, signed and timed.

7. Maternal pulse should be recorded hourly and blood pressure four hourly unless otherwise requested or obstetric conditions indicate more frequent recordings. All recordings should be written on to the partogram.

8. The fetus should be continuously monitored according to the CTG guidelines for first and second stages of labour (see combined fetal monitoring guideline GL964). Recordings of the fetal heart should be recorded on the partogram at every 15 minutes in the first stage of labour and every 5 minutes in the second stage of labour.
9. Palpate contractions for frequency, strength, duration and resting tone every half hour and record on the partogram. Do not rely on CTG to assess strength of contractions.

10. If monitoring contractions is not possible,
   - Change maternal position
   - Consider using the extra-large straps for women with increased BMI
   - Palpate contraction and place toco on abdomen where contraction palpated at strongest
   - Escalate to senior midwife

In order for the CTG to be assessed accurately the recording of the contractions is a vital element therefore every effort should be made to record on the CTG the presence of contractions. If the toco is not picking them up the midwife may use another method to ensure this is done, e.g. Press the toco lightly during contraction, or mark the CTG but accuracy must be sought.

Any difficulties in monitoring the contractions should be evidenced within the maternal records including actions taken.

The midwife should monitor contractions by palpating continuously for 10 mins every 30 mins. They should document in the maternal records difficulties of monitoring contraction and how they are palpating for strength, duration via palpates.

11. Unless K2 electronic intrapartum records are being used: At each ‘Fresh eyes’ assessment, use a coloured dot to indicate whether the contraction rate is normal or abnormal. The GREEN dot indicates a contraction rate of 5 or less:10 minutes and a RED dot if > 5:10 minutes.

12. Progress in labour should be assessed up to four hours after commencing Oxytocin. If there is <2cm progress after four hours an obstetric review is required. If there is 2cms of more progress, vaginal examinations should be advised 4-hourly.

If labour has not established when Oxytocin has run at 32 ml per hour for 4 hours contact the Obstetric Registrar. Do not increase the dose unless the woman is reviewed in person by the Obstetrician on-call who will need to discuss the decision to increase the infusion to 64mls/hr with the consultant on call.
Hyperstimulation

Uterine hyperstimulation can appear as tachysystole or hyper tonus, which may lead to FHR changes. Hyperstimulation is defined as > 5 contractions in 10 minutes or contraction lasting longer those 2 minutes.

13. In the absence of fetal compromise. If >5 contractions are palpated in 10 minutes and lasting up to 60 seconds there may be tachysystole/hyperstimulation. If this continues in the next 10 minutes reduce the infusion immediately to the last incremental dose. i.e. if on 8ml/hr reduce to 4mls/hr to reduce the rate of contractions - reduce again if this doesn’t work. If the rate of contractions does not decrease to < 5 contractions in 10 minutes, STOP the Oxytocin infusion.

14. After stopping the Oxytocin infusion and the contractions become infrequent the attending midwife should discuss this with either the Delivery Suite Co-ordinator (if the mother is under MW care for labour) or with the duty Registrar (if the mother is consultant booked for delivery) as to whether the Oxytocin infusion should be recommenced, prior to recommencing the infusion, as a dose midway between those previously administered may be appropriate (e.g. if 16mu/min too much and 8mu/min not enough, 12mu/min could be appropriate).

If the contractions are greater than 5 in every 10 minutes together with signs of fetal compromise TURN OFF the Oxytocin and inform the midwife in charge and/or the medical staff.

- You may need to consider using tocolytics.
- Give Terbutaline 0.25 mg by subcutaneous injection or Ventolin inhaler to relax the uterus see Hyperstimulation of the uterus guideline (GL856)
- Give oxygen at a rate of 10L/min

When to stop Oxytocin infusion

The Oxytocin infusion should be stopped in the following situations and a medical review requested:

1. FHR trace is classified as pathological
2. Intrapartum haemorrhage occurs
3. Suspicion of uterine rupture
4. Signs of obstructed labour
5. Cord prolapse
6. Abnormal presentation diagnosed – breech, arm presentation etc.
7. Contractions >5:10 with signs of fetal compromise
Augmentation with Oxytocin in 2nd stage of labour

Oxytocin should not be commenced in the 2nd stage of labour to allow descent of the presenting part in women with a singleton pregnancy. In exceptional circumstances, in a Primigravida mother, the duty obstetrician may prescribe Oxytocin after review and assessment of the woman. Multiparous women should NEVER have Oxytocin prescribed in the second stage as the risk of uterine rupture is significant. However, in mothers delivering twins, an Oxytocin dose should routinely be prepared at the onset of the second stage, and infusion commenced once the first twin has been delivered. [See Management of twin and multiple pregnancy guideline GL928]

Oxytocin may be considered if uterine contractions have diminished and are needed to aid assisted vaginal birth. The decision to use Oxytocin in the 2nd stage of labour must be made by specialist registrar after assessment of the woman. Midwives cannot prescribe Oxytocin in the 2nd stage.

If considered appropriate to use

- Complete 2nd stage Oxytocin assessment sticky label and Oxytocin action plan unless using electronic patient records.
- Continuous fetal heart rate monitoring is essential [see Combined fetal monitoring guideline GL964].

Post delivery

Post-delivery Oxytocin regime:

1. 30 units of Oxytocin in 500mls of N-Saline – Via a Fresenius volumetric pump
2. 100mls per hour by pump until vaginal loss is ‘normal’ or as specified in Obstetrician’s notes
3. Reduce the infusion to 50mls for half an hour
4. Reduce to 25mls for half an hour
5. Turn off.
6. If the bleeding increases at any stage restart or increase Oxytocin

For most mothers who have delivered a singleton, the Oxytocin infusion should continue for up to one hour post-delivery. The dose should be weaned down at quarter hourly intervals and uterine contraction and blood loss monitored. If the bleeding is heavier than expected, ask for a medical review.

For mothers who have delivered twins or higher order multiples, the infusion rate should be increased after the delivery of the last neonate to 100ml/hr, and then reduced stepwise as above [See Management of twin and multiple pregnancy guideline GL928].
Most women who have had a LSCS will have had Carbetocin, a long acting oxytocic drug and will not require any further uterotonic agents. If there is continued bleeding, Oxytocin infusion should not be started until 4hrs after the Carbetocin, though other Uterotonics may be given. Where bleeding continues, EUA should be considered.

**PPH/MOH [See Obstetric Haemorrhage guideline GL775]**

### Monitoring standards:

<table>
<thead>
<tr>
<th>Auditable Standard</th>
<th>Monitoring method</th>
<th>Frequency of monitoring</th>
<th>Review Group / Committee</th>
</tr>
</thead>
<tbody>
<tr>
<td>A risk assessment, prior to commencement of infusion in the first and second stage of labour, will be carried out in all cases when oxytocin infusion is required. This will be documented by completing and attaching to the maternal health record the “Risk assessment – Oxytocin, first stage of labour” label when commenced during the first stage of labour or the “Risk assessment – Oxytocin, second stage of labour” label when commenced during the second stage of labour or by documenting the assessment in the free-text record.</td>
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<tr>
<td>The Oxytocin dose schedule will be followed as stated in guideline. The gap between dose increments will be at least of 30 minutes. The dosage and increment frequency will be documented in the partogram.</td>
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<tr>
<td>Continuous CTG monitoring will be carried out in all cases when Oxytocin infusion is commenced.</td>
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</table>
| The following maternal & fetal observations to be carried out while on Oxytocin infusion (recorded in the partogram):  
  ✓ Maternal pulse hourly  
  ✓ Maternal BP 4 hourly  
  ✓ Temperature 4 hourly  
  ✓ Respiration rate 4 hourly  
  ✓ MOWS calculated 4 hourly  
  ✓ FHR recorded every 15 minutes in 1st stage and every 5 min in 2nd stage. | | | |
| A management plan will be documented in the maternal health record in all cases when Oxytocin infusion on commencement of Oxytocin infusion for augmentation or induction of labour. | | | |
| Oxytocin infusion will be stopped as stated in the guideline. This will be documented on the CTG trace and in the maternal health record. | | | |

**Review of 1% of maternal health care record of women that received Oxytocin infusion**

**Annual audit report**

**Maternity Audit Forum**

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*This document is valid only on last printed page 7 of 8*
References

