Guideline for the use of Oxytocin in Labour

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Document Control Information

*Approved by: Maternity Service Guideline and Information Group
*Date approved: June 2009
*Version: 1
*Publication date: June 2009

Review date: June 2011
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Target audience: Women's Health Directorate

Related documents/policies: Vaginal Birth After Caesarean Section 2009
Induction of Labour 2009
Operative Vaginal Delivery 2009
Fetal Monitoring and fetal blood sampling in labour 2009

Number of pages and appendices: 7 Pages

Equalities Impact Assessment: Aspect/s of equalities duties that relate to this policy Low Impact
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1.0 Introduction

The guidelines contained in this document are based on best practice as set out by the Royal College of Obstetricians and Gynaecologists, National Institute for Health and Clinical Excellence and the Confidential Enquiry into Maternal and Child Health.

Oxytocin is a synthetic hormone, which stimulates the smooth muscle of the uterus to produce rhythmic contractions. As pregnancy progresses, the uterine muscle becomes increasingly sensitive to the contractile effects of the drug. Oxytocin (Syntocinon TM) is used to induce or augment labour and to accelerate suboptimal cervical dilation. Risks associated with the use of oxytocin include hypercontractility, uterine rupture, fluid retention and fetal compromise.

2.0 Purpose

- To promote good practice and consistency in the use of oxytocin in UCLH labour and Delivery Care.
- To identify the patient subgroup to avoid oxytocin infusion.
- To identify women who need oxytocin in labour.

This guideline is based on the recommendations from the National Institute of Clinical Effectiveness Induction of Labour Guideline (2008) on the use of Oxytocin to accelerate or augment labour

- To identify that woman must have an assessment that is clearly documented in the maternal records by an obstetrician prior to commencement of oxytocin.
- To ensure that dose schedules and frequency of dose are clear and unambiguous and given in accordance with guidelines
- To ensure that women who are prescribed oxytocin are monitored in accordance with EGA Fetal Monitoring guidelines (2009)
- To promote good practice and consistency in the management of women who require the use of oxytocin to induce, or augment during the course of their labour
- To identify who are suitable for the use of syntocinon to augment or stimulate their labour
- To describe the methods of syntocinon used in labour and delivery care ward with a clearly documented plan written in their maternity records

2.1 Key reference materials used in the development of this guideline:

Royal College of Obstetricians and Gynaecologists Green-top Guidelines
National Institute for Health and Clinical Excellence Guidance 2007
British National Formulary edition 57 March 2009
NICE Intrapartum Care, September 2007
Summary of Product Characteristics Syntocinon 2007 Alliance Pharmaceuticals
3.0 Scope

This document applies to all women who are admitted to UCLH NHS Foundation trust delivery suite. This guideline is relevant to Midwives, Obstetricians and Anaesthetists.

4.0 Development and consultation


In developing this guideline the following groups were consulted:
Supervisors of Midwives
Midwives
Consultant Midwives
Obstetric Consultants
Junior Obstetric Staff
Neonatal Team

5.0 Guideline

Oxytocin is a hormone released by the pituitary. It exerts a stimulatory effect on the smooth muscle of the uterus, particularly towards the end of pregnancy, during labour, after delivery and in the puerperium, i.e. at times when the number of oxytocin receptors in the myometrium is increased. When given as a low dose infusion oxytocin causes rhythmic uterine contractions that are similar to those seen in spontaneous labour.

Syntocinon parenteral solution may be given for the induction of labour for medical reasons or the stimulation of labour in hypotonic uterine inertia.

The SpR must review the woman and fetal wellbeing must be assessed and where applicable perform an abdominal palpation and vaginal examination. A management plan should be clearly documented in the maternal records where the:

• Cervical dilatation of less than 2 cm in 4 hours for first labours (NICE clinical guideline 55).
• Cervical dilatation of less than 2 cm in 4 hours or a slowing in the progress of labour for second or subsequent labours.
6.0 Indications for Oxytocin Infusion:

- Women in spontaneous labour failing to progress in first stage of labour.
- Failure to progress in the second stage of labour (Thorough assessment should be taken prior to starting Oxytocin in second stage to exclude cephalo-pelvic disproportion or obstructed labour).
- Women with induced labours, not progressing after ARM (Artificial rupture of membranes).
- Postpartum haemorrhage (Please refer to postpartum haemorrhage guideline).

7.0 Contraindications for use of oxytocin in labour:

- Hypertonic uterine contractions.
- Mechanical obstruction to delivery.
- Fetal distress.
- Severe pre-eclampsia or severe cardiovascular disease.
- Any condition where spontaneous labour or vaginal delivery advisable.

8.0 Cautions:

- Owing to the increased risk uterine rupture oxytocin should only be administered for women with previous caesarean section or multiparous women following discussion with the consultant or senior SpR.
- Avoid prolonged administration in oxytocin-resistant uterine inertia, to prevent postpartum haemorrhage.
- An anti-reflux valve must be inserted into the IV fluids arm of the giving set, to prevent oxytocin back tracking into the fluid infusion if the cannula is blocked or positional.
- Oxytocin should not be started for at least six hours following the administration of vaginal prostaglandin.
9.0 Side effects

- Common side effects include headache, tachycardia, bradycardia, nausea and vomiting.
- Uterine spasm/hypercontractility
- Water intoxication with hyponatraemia.
- Rarely pharmacological induction of labour increases the risk of disseminated intravascular coagulation.
- Cardiac arrhythmias occur uncommonly, rash and anaphylactic reactions occur rarely.

10.0 Birth Centre

Women in the Birth Centre requiring oxytocin acceleration of labour should be transferred to the labour ward and continuous electronic foetal monitoring should commence.

11.0 Preparing the infusion

10 units Oxytocin should be added to 500mls sodium chloride 0.9% and the additive label completed and secured to the bag. The solution should be run through an IVAC giving set. Before connecting to the woman the giving set must be clamped in the gate of the IVAC to avoid rapid infusion of the oxytocin solution.

11.1 Infusion rate

Oxytocin should be commenced at 1 milliunit/min and increased according to the following regime until regular, strong contractions with a frequency of 3-4 in 10 have been achieved. During the second stage of labour the infusion rate can be increased every 15 minutes if required. If regular contractions are not established after a total of 5 units (5 hours on the above regimen) then induction should be stopped and a plan of care determined by the consultant/senior SpR.
12.0 Fetal and maternal monitoring

- The fetal heart rate should be continuously monitored during oxytocin infusion.
- Assess cervical status prior to the administration of oxytocin noting – effacement, dilation and station (fetal descent)
- Assess fetal heart rate (FHR) and contraction pattern and intensity every 30 minutes or with each incremental increase of oxytocin.
- Assess BP and pulse every hour.
- Assess intake and output every 4 hours.

13.0 Symptoms of hyperstimulation

- More than 5 contractions in 10 mins
- Suspicious or pathological CTG.
- The oxytocin infusion should be discontinued and the coordinator and the obstetric team should be informed.
14.0 Implementation, Monitoring and Training requirements

Dissemination of the policy and procedure will occur through the senior clinical obstetric and midwifery leads by verbal means and visual display of new guideline in all ward areas and the intranet.

The following describes the plan for monitoring the implementation and on-going performance of practice in the context of this guideline.

### Use of Oxytocin

<table>
<thead>
<tr>
<th>What</th>
<th>When</th>
<th>Who</th>
<th>How</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audit of the effectiveness of systems in place for improving care and learning lessons relating to the use of Oxytocin in the first and second stages of labour</td>
<td>Annual audit</td>
<td>Consultant or Midwife or delegate named by risk manager</td>
<td>Audit is presented to Intrapartum Clinical Governance Group, which is also responsible for monitoring actions.</td>
</tr>
</tbody>
</table>

The Maternity Service reserves the right to change the monitoring arrangements within its guidelines and operational guidance to meet the needs of the service.

**Staff should receive regular training on:**

- Use and interpretation of fetal (CTG) monitoring
- Management of obstetric emergencies

15.0 Guideline Development Group

Consultant Obstetrician: Chair Guideline Group  
Lead Midwife for guideline Group  
Head Of Midwifery  
Risk Manager  
Supervisor of Midwives

**Other Groups Consulted:**

- Supervisors of Midwives  
- Midwives  
- Clinical Practice Facilitator  
- Consultant Midwives  
- Obstetric Consultants  
- Junior Obstetric Staff

16.0 References
1. NICE guideline   Intra partum care – Care of healthy women and their babies during childbirth. 2008