University Hospitals of North Midlands NHS
NHS Trust

Achieving Sustainable Quality in Maternity Services

ASQUAM Guideline of Oxytocin Use in Labour

Date of Ratification:	May 2016
Date of Next Review:	May 2019
Ratified by:	Labour Ward Forum Sub-Group Obstetric Guideline Group
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VERSION CONTROL SCHEDULE

Version	Date	Author	Comments
1	2009 - May		
2	2010 – December		
3	2011 – August		
4	2011 – December		
5	2012 – March		
6	2013 – July		
7	2014 - January		Combined stop/start sticker added Section - 4. ASSESSMENT PRIOR TO COMMENCEMENT OF OXYTOCIN - following sentence has been added. Before commencing Oxytocin the midwife must confirm presentation is cephalic and membranes are ruptured.
8	May 2016	Dr J Chan Consultant Obstetrician and Gynaecologist Lead Consultant for guidelines Miss Elizabeth Pearson, Lead Midwife for Development and Education Mrs Davina Dracocardos, Directorate Clinical Auditor	Full guideline review including References Insertion of tocolysis for hyperstimulation Use of telemetry Definition of high parity Recommended use of prescription chart Difference in management for primips and multips Syntocinon changed to Oxytocin throughout. IU changed to international units throughout Flow chart inserted Audit and monitoring table updated into new format

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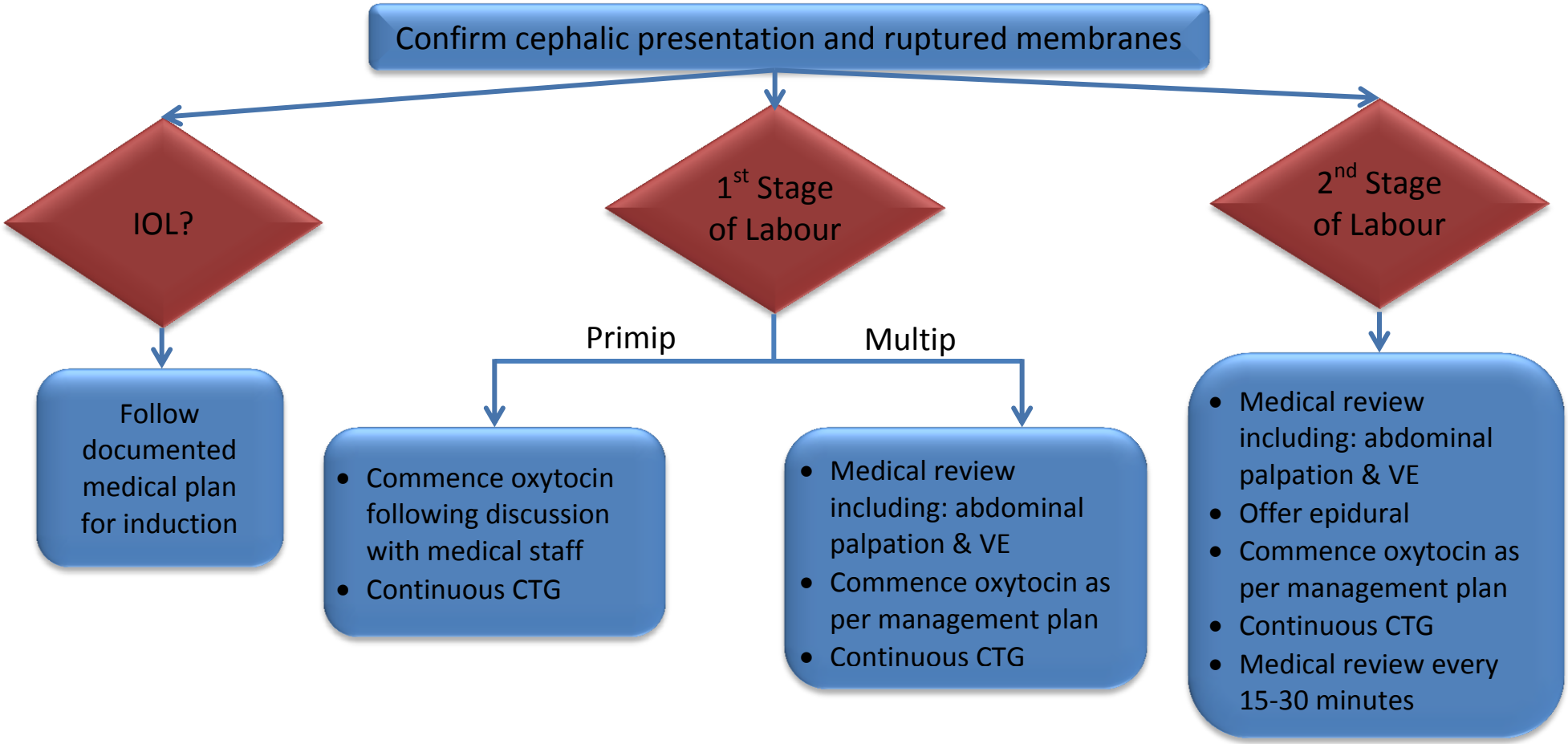
Confirm cephalic presentation and ruptured membranes
IOL?
1st Stage of Labour
2nd Stage of Labour
Primip
Multip
Follow documented medical plan for induction
• Commence oxytocin following discussion with medical staff
• Continuous CTG
• Medical review including: abdominal palpation & VE
• Commence oxytocin as per management plan
• Continuous CTG
• Medical review including: abdominal palpation & VE
• Offer epidural
• Commence oxytocin as per management plan
• Continuous CTG
• Medical review every 15-30 minutes

1. PURPOSE OF THE GUIDELINE

The aim of this guideline is to guide health care professionals in the use of oxytocin in labour, including the indications, contraindications, dose regimen and monitoring in labour.

2. INDICATIONS

1. Induction/ Augmentation of labour following spontaneous or artificial rupture of membranes
2. As bolus dose for active management of third stage of labour
3. As bolus dose or intravenous (IV) drip for management of postpartum haemorrhage

2.1 Contra-indications[1, 2]

- Any condition where spontaneous labour or vaginal delivery inadvisable
- Hypertonic uterine inertia
- Mechanical obstruction to delivery
- Failed trial of labour
- Fetal distress
- Placenta praevia
- Severe pre-eclampsia toxaemia
- Severe cardiovascular disease

2.2 Precautions[1, 2]

- Abnormal presentation (NB breech)
- Multiple pregnancy
- High parity (i.e. ≥5)
- Previous caesarean section
- Action may be potentiated by prostaglandins, so it should not be started for 6 hours following the administration of vaginal prostaglandin

3. SIDE EFFECTS[2]

Common/Very Common:

- Arrhythmia
- Headache
- Nausea
- Vomiting

Rare:

- Anaphylactoid reactions (with dyspnoea, hypotension, or shock);
- Disseminated intravascular coagulation;
- Hyponatraemia associated with high doses with large infusion volumes of electrolyte-free fluid;
- Rash;
- Uterine hyperstimulation (usually with excessive doses—may cause fetal distress, asphyxia, and death, or may lead to hypertonicity, tetanic contractions, soft-tissue damage or uterine rupture)
- Uterine spasm (may occur at low doses)
- Water intoxication associated with high doses with large infusion volumes of electrolyte-free fluid

Note:

- Cannot be infused through the same line as blood or plasma (oxytocinase can inactivate oxytocin)

4. ASSESSMENT PRIOR TO COMMENCEMENT OF OXYTOCIN FOR INDUCTION/AUGMENTATION

Before commencing oxytocin the midwife must confirm presentation is cephalic and membranes are ruptured.

An individual management plan must be documented, by medical staff, in the health record/birth notes and an oxytocin sticker should be used.

OXYTOCIN	
WHEN STARTING	**WHEN TO STOP/REDUCE**
Indication: IOL ☐ 1st ☐ 2nd ☐ Postnatal ☐	Hyperstimulation (>5/10) and pathological CTG **OR** Deceleration >3 minutes **OR** Following titration after delivery of baby
	Reduce oxytocin and obtain medical review: Hyperstimulation and normal/suspicious CTG

5. DOSE SCHEDULE - OXYTOCIN REGIMEN FOR INDUCTION/ AUGMENTATION OF LABOUR [1, 2]

At UHNM a solution of oxytocin should be prepared by two trained members of staff (i.e. midwife or medical staff). The authors of the guideline acknowledge the recommendations for dilutions and dose regimes for oxytocin given in the NICE Guideline. Locally, however the decision at the Labour Ward forum (4-5-10) following discussion with pharmacy, was to use the following oxytocin low dose regimen for every patient:

Intrapartum Oxytocin Regime

5 international units oxytocin (commonly referred to as Syntocinon® at UHNM) made up to 50 mls of 0.9% Sodium Chloride (1ml (5 international units) oxytocin + 49 mls of 0.9% Sodium Chloride)

A drug additive label should be completed by both staff members to indicate concentration prepared and attached to the syringe of 0.9% Sodium Chloride.

Rate commencing at 1.5 mls per hour and increasing at 30 minute intervals to: 3.0 mls; 4.5 mls; 6.0mls and a maximum of 9.0 mls per hour or until there are 4-5 contractions in 10 minutes[3].

If regular contractions are not established, request a medical review (obstetric registrar or consultant) and an individual plan of management should be clearly documented.

DO NOT INCREASE THE MAXIMUM RATE WITHOUT CONSULTING MEDICAL STAFF (OBSTETRIC REGISTRAR or CONSULTANT)

STOP THE INFUSION RATE IF:

- PROLONGED DECELERATION >2MINS OR BRADYCARDIA. OTHER CTG CONCERNS SHOULD TRIGGER IMMEDIATE MEDICAL REVIEW AND DECISION RE: OXYTOCIN

- Definite fetal distress
- Contractions last >60 seconds
- Uterus does not relax between contractions
- More than 5 contractions in 10 minutes.
- Coupling of contractions – this implies over stimulation

Reduce contraction frequency by:

- Stopping oxytocin if it is being used (the senior obstetrician (ST6 or above) should decide and document whether and when to restart oxytocin) and/or

Offering a tocolytic drug (a suggested regimen is subcutaneous terbutaline 0.25 mg)[3].

Oxytocin should be prescribed on the prescription chart and all oxytocin administration, including rate changes, should be documented in the body of the notes and on the cardiotocograph (CTG).

6. OXYTOCIN FOR INDUCTION OF LABOUR

Midwives may commence oxytocin as part of the documented plan for induction of labour.

Please refer to ASQUAM Guideline for Induction of Labour[1]

7. OXYTOCIN USE IN 1ST STAGE OF LABOUR [3]

Assessment prior to commencement of oxytocin in the first stage of labour

- For primiparous women with delay in the first stage of labour, midwives may commence oxytocin after discussion with medical staff.
- Multiparous women with confirmed delay in the first stage should be seen by an obstetrician who should make a full assessment, including an abdominal palpation and vaginal examination, before making a decision about the use of oxytocin.

- The woman should be informed that the use of oxytocin following spontaneous or artificial rupture of the membranes will bring forward her time of birth but will not influence the mode of birth or other outcomes[3].

- Women should be informed that oxytocin will increase the frequency and strength of their contractions and that its use will mean their baby should be monitored continuously. Women should be made aware that epidurals are available 24 hours a day if required..

- Where oxytocin is used in the first stage of labour, the time between increments of the dose should be no more frequent than every 30 minutes.

Monitoring

- Oxytocin increases the frequency and strength of contraction and continuous **cardiotocography (CTG) monitoring is mandatory throughout.** Consider the use of telemetry where appropriate.

- Oxytocin should be increased until there are 4-5 contractions in 10 minutes.

- The woman should be advised to have a vaginal examination 4 hours after commencing oxytocin in established labour. If there is less than 2 cm progress after 4 hours of oxytocin, further obstetric review is required to consider caesarean section. If there is 2 cm or more progress, vaginal examinations should be advised 4-hourly.

Observations by a midwife during the first stage of labour should include:

- 4 hourly temperature and blood pressure
- hourly pulse
- half-hourly documentation of frequency of contractions
- frequency of emptying the bladder
- Vaginal examination offered 4 hourly, or where there is concern about progress or in response to the woman's wishes

All of the above need to be clearly documented in the intrapartum birth records.

8. OXYTOCIN USE IN 2ND STAGE OF LABOUR

Consideration should be given to the use of oxytocin, with the offer of regional analgesia, for nulliparous women if contractions are inadequate at the onset of the second stage.[3]

For a nulliparous woman:

Birth would be expected to take place within 3 hours of the start of the active second stage in most women. Diagnose delay in the active second stage when it has lasted 2 hours and refer the woman to medical staff

For a multiparous woman:

Birth would be expected to take place within 2 hours of the start of the active second stage in most women diagnose delay in the active second stage when it has lasted 1 hour and refer the woman to medical staff.

Medical staff should make a full assessment, including an abdominal palpation and vaginal examination, before making a decision about the use of oxytocin. This should be documented as an individualised management plan regarding the rate the oxytocin infusion should be commenced at and intervals of increase.

After initial obstetric assessment of a woman with delay in the second stage, maintain on going obstetric review every 15–30 minutes[3].

Monitoring

Oxytocin increases the frequency and strength of contraction and continuous **CTG monitoring is mandatory throughout.** Consider the use of telemetry where appropriate.

Observations by a midwife for second stage of labour should include:

- hourly blood pressure and pulse
- continued 4 hourly temperature
- vaginal examination offered hourly in the active second stage or in response to the woman's wishes (after abdominal palpation and assessment of vaginal loss)
- half-hourly documentation of the frequency of contractions
- frequency of emptying the bladder
- ongoing consideration of the woman's emotional and psychological needs.

9. OXYTOCIN USE IN 3RD STAGE OF LABOUR

NICE recommends active management of third stage of labour to prevent the risk of postpartum haemorrhage (PPH)[3]. At UHNM the following drugs should be used.

1. Women with no contraindications to ergomotrine, who are normotensive, should have 5 international units oxytocin and 500 micrograms of ergometrine maleate (commonly referred to as Syntometrine® at UHNM) intramuscularly

2. Women who have had hypertension should **not** receive oxytocin with ergometrine, but should be given oxytocin 10 units (commonly referred to as Syntocinon® at UHNM) intramuscularly. (This is due to the potential effect ergometrine has on increasing blood pressure.)

3. Women who are admitted and deliver very quickly, and their blood pressure has not been checked in labour, should receive oxytocin (oxytocin – 10 international units) intramuscularly.

10. OXYTOCIN AND PREVIOUS CAESAREAN SECTION

A senior obstetrician (ST6 or above) should discuss the following with the woman: the decision to induce labour, the proposed method of induction, the decision to augment labour with oxytocin, the time intervals for serial vaginal examination and the selected parameters of progress that would necessitate discontinuing VBAC[4].

An individual management plan should be documented in the notes by the senior obstetrician.

11. USE OF OXYTOCIN IN PROPHYLAXIS AND TREATMENT OF POSTPARTUM HAEMORRHAGE

Refer to UHNM ASQUAM Guideline for Postpartum Haemorrhage (PPH)[5]

At the UHNM the following regimen is used for Postpartum IV infusion of oxytocin:

- 30 international units oxytocin made up to a total volume of 50 mls with 0.9% Sodium Chloride . Infuse at a rate of 12.5 mls per hour. Women may be transferred to the postnatal ward with oxytocin infusion for ongoing prophylaxis once acute haemorrhage has been controlled and deemed clinically stable.

12. OXYTOCIN USE IN TREATMENT OF WOMEN WITH A RETAINED PLACENTA

Active Management:

The third stage of labour is diagnosed as prolonged if not completed within 30 minutes of the birth of the baby.

If the placenta is still retained 30 minutes after oxytocin injection (Syntocinon® or Syntometrine®), or sooner if there is concern about the woman's condition, women should be offered an assessment, by the medical staff, of the need to remove the placenta and a plan written in the notes.

Intravenous infusion of oxytocin should not be used to assist the delivery of the placenta.

<u>Physiological Management:</u>

The third stage of labour is diagnosed as prolonged if not completed within 60 minutes.

Following discussion with the women, administer intramuscular (IM) oxytocin (Syntocinon® or Syntometrine® as appropriate (see above)) if not delivered by 60 minutes.

If the placenta is still retained 30 minutes after oxytocin injection (Syntocinon® or Syntometrine®), or sooner if there is concern about the woman's condition, women should be offered an assessment, by the medical staff, of the need to remove the placenta and a plan written in the notes.

Intravenous infusion of oxytocin should not be used to assist the delivery of the placenta.

13. MULTIDISCIPLINARY MONITORING AND AUDIT

The need to monitor/audit the standards set out below will be considered alongside other Directorate requirements and prioritised accordingly. The Directorate Clinical Audit programme is drafted by the Directorate Clinical auditor, in liaison with clinical staff, and approved by the Directorate.

Element to be monitored	Lead	Tool	Frequency	Reporting arrangements	Acting on recommendations and lead(s)	Change in practice and lessons to be shared
Guideline content	Guideline Co-ordinator	Guideline Review	Every three years	Labour Ward Forum Subgroup: Guideline Meeting	Required changes to practice will be identified and actioned with the release of the updated guideline.	Required changes to practice will be identified and actioned with the release of the updated guideline.
Clinical standards within guideline	Directorate Clinical Auditor	Clinical Audit	As required in relation to other Directorate priorities	Directorate Business, Performance and Clinical Governance Meeting	Required actions will be identified and completed in a specified timeframe as per the audit action plan.	Required changes to practice will be identified and actioned within a specific timeframe as per the audit action plan and, in addition, lessons will be shared with relevant stakeholders as per audit action plan.

REFERENCES

1. University Hospitals of North Midlands (UHNM) (July 2014), ASQUAM Guideline for Induction of Labour
2. British National Formulary (BNF) (2015), accessed from www.medicinescomplete.com (December 2015)
3. National Institute for Health and Clinical Excellence (NICE) (2014), CG190Intrapartum care; care of healthy women and their babies during childbirth
4. Royal College of Obstetricians and Gynaecologists (RCOG) (2015), RCOG Greentop Guideline No. 45: Birth after previous caesarean section
5. University Hospital of North Midlands (UHNM) (January 2016), ASQUAM Guideline for Postpartum Haemorrhage
6. University Hospital of North Midlands (UHNM) (2015), Policy No. (RM07) Trust Policy for Reporting and Management of Incidents including SIRI and STEIS Reportable Incidents.