Royal Cornwall Hospitals
NHS Trust

Oxytocin in the First and Second Stage of Labour Clinical Guideline

V3.2

April 2024

1. Aim/Purpose of this Guideline

1.1. This guideline gives guidance to obstetricians and midwives on the use of Oxytocin in the first and second stage of labour including: assessment prior to the commencement of Oxytocin, dose schedule, monitoring arrangements for the woman and the fetus and on-going management of a woman with Oxytocin infusion in labour.

1.2. This guideline makes recommendations for women and people who are pregnant. For simplicity of language the guideline uses the term women throughout, but this should be taken to also include people who do not identify as women but who are pregnant, in labour and in the postnatal period. When discussing with a person who does not identify as a woman, please ask them their preferred pronouns, and then ensure this is clearly documented in their notes to inform all health care professionals.

1.3. This version supersedes any previous versions of this document.

Data Protection Act 2018 (UK General Data Protection Regulation – GDPR) Legislation.

The Trust has a duty under the Data Protection Act 2018 and UK General Data Protection Regulations 2016/679 to ensure that there is a valid legal basis to process personal and sensitive data. The legal basis for processing must be identified and documented before the processing begins. In many cases we may need consent; this must be explicit, informed, and documented. We cannot rely on opt out, it must be opt in.

Data Protection Act 2018 and UK General Data Protection Regulations 2016/679 is applicable to all staff; this includes those working as contractors and providers of services.

For more information about your obligations under the Data Protection Act 2018 and UK General Data Protection Regulations 2016/679 please see the Information Use Framework Policy or contact the Information Governance Team.

Royal Cornwall Hospital Trust rch-tr.infogov@nhs.net

2. The Guidance

Oxytocin is a synthetic version of the naturally occurring hormone oxytocin. Oxytocin is normally released by the posterior pituitary gland towards the end of pregnancy causing the smooth muscle of the uterus to contract. Oxytocin is administered by intravenous infusion to induce or augment labour as per Oxytocin regime. All women must have an obstetric review prior to commencing Oxytocin. All women who are receiving intravenous Oxytocin are classed as high risk and must be reviewed by an obstetrician a minimum of 6 hourly. This must be documented in the notes.

2.1. **Contraindications for use:**

- Hypertonic uterus.
- Hyperstimulation.

- Absolute mechanical obstruction to labour.
- Abnormal Cardiotocograph (CTG) with evidence of hypoxia (New 2023).

2.2. **Cautions for use (decision to use must be made by an experienced Obstetrician only):**

- Abnormal presentation.
- Multiple pregnancy.
- High parity >3.
- Previous Caesarean section (see Vaginal Birth After Caesarean Section (VBAC) (cornwall.nhs.uk)).
- Cardiac disease if stated by the maternal medicine team (New 2023).

2.3. **Informed patient consent- before commencing an Oxytocin infusion**

Inform the woman that:

- Oxytocin infusion will increase the strength and frequency of their contractions.
- Its use will bring forward the time until delivery but may not alter the mode of delivery or other outcomes.
- Woman and baby must be monitored prior to and throughout the use of Oxytocin.
- An obstetrician must complete the 'commencing and use of oxytocin infusion in labour' (Appendix 3) prior to commencing oxytocin.

2.4. **Protocol for use of Oxytocin infusion in first stage of labour**

2.4.1. **Primigravida**

- Identification of delay in first stage of labour /abnormal contraction pattern.
- Discuss abdominal and VE findings with the delivery suite coordinator.
- The Midwife or Co-ordinator will discuss commencing Oxytocin with an experienced obstetrician.
- The decision to start Oxytocin should be discuss with the woman and verbal consent obtained.
- The obstetrician should place a completed Oxytocin form in the woman's notes, this will include an individual management plan and time of next assessment and when Oxytocin should be stopped.

- Ensure continuous electronic fetal monitoring (EFM) is in progress and that the CTG trace is ‘normal’ prior to commencing Oxytocin.

- Ensure Oxytocin is prescribed electronically.

2.4.2. **Multigravida**

As above, however, Oxytocin should be used with caution and therefore, an experienced obstetrician must undertake a full assessment, taking into account the recent vaginal examination (VE), prior to the use of Oxytocin.

2.5. **Protocol for use of Oxytocin infusion in second stage of labour**

2.5.1. **Where oxytocin is commenced in the second stage of labour the patient requires an obstetric review every 30 minutes.** If this timeframe cannot be achieved, the reasons should be documented, and the Delivery Suite Coordinator informed.

2.5.2. **Primigravida**

- If contractions are inadequate at the beginning of the second stage or identification of delay is made during the 2nd stage, the midwife will discuss this with the Delivery Suite Coordinator.

- The Delivery Suite Coordinator will request a review by an experienced middle grade/consultant obstetrician.

- Where oxytocin is commenced in the 2nd stage of labour a clear plan for dosage and increase rates needs to be documented by the obstetrician. The obstetrician will document on an Oxytocin form in the woman’s notes a full assessment including abdominal palpation, vaginal examination and fetal heart classification, individual management plan including timing of next assessment.

- The decision to use Oxytocin should be discussed with the woman and consent gained.

- Ensure continuous EFM is in progress and that this is ‘Normal’ prior to commencing Oxytocin.

- Ensure Oxytocin is prescribed electronically.

- Prolonged trials of Oxytocin for delay in 2nd stage should be avoided, delivery is more appropriate.

2.5.3. **Multigravida**

As above, however Oxytocin should be used with extreme caution. The decision to use Oxytocin in this situation should only occur once an experienced obstetrician has performed a complete assessment and the decision has been agreed by a Consultant Obstetrician.

2.6. **Fetal Monitoring**

2.6.1. Continuous EFM is indicated in all women receiving an Oxytocin infusion. ST-analysis of fetal ECG is recommended and must be commenced if there are difficulties achieving a good quality fetal heart trace; the toco should be recording the contractions adequately.

2.6.2. If the CTG trace is 'Normal' – continue to increase Oxytocin as per protocol to achieve a contraction pattern of 4 contractions in 10 minutes.

2.6.3. If the CTG trace is intermediary do not increase Oxytocin until obstetric review; if there is evidence of hyper stimulation, consider stopping or reducing Oxytocin.

2.6.4. **If the CTG trace is "abnormal" or there is a prolonged deceleration – stop Oxytocin, commence conservative measures to improve fetal environment, a full assessment of fetal condition should be undertaken by an obstetrician and the Oxytocin only recommenced on the instructions of the obstetrician. After stopping oxytocin, if the prolonged deceleration continues then consider terbutaline (New 2023).**

2.7. **Maternal Monitoring**

2.7.1. Continuous monitoring of maternal contractions should be maintained, and frequency of contractions documented on the partogram. The Oxytocin infusion should be increased as per protocol until a contraction pattern of 4 contractions in 10 minutes is achieved.

2.7.2. If Oxytocin is commenced in the first stage of labour, vaginal examination is performed after four hours of Oxytocin infusion or in accordance with the individual management plan.

2.7.3. If the cervix has dilated less than 2cm in four hours, arrange obstetric review and consider Caesarean Section.

2.7.4. If the cervix has dilated a further 2cm or more, continue with Oxytocin and arrange next examination for four hours (or sooner if you expect full dilatation) based on a progress rate of 0.5cm per hour.

2.7.5. When Oxytocin is commenced in the second stage of labour a management plan must be individualised by the attending obstetrician.

2.8. **Oxytocin Infusion Regime**

2.8.1. Oxytocin and Normal saline infusions need to be prescribed by a doctor electronically.

2.8.2. Set up an intravenous line through a Baxter pump with a 3-way tap.

2.8.3. Use 500mls Sodium Chloride 0.9% solution.

2.8.4. Add 10 IU Oxytocin and mix thoroughly.

2.8.5. Complete an ‘additions’ sticker and attach to infusion mixture, which must be checked and signed and apply the ‘red Oxytocin’ sticker to the giving set.

2.8.6. Commence Oxytocin at 6mls/hour (= 2mU/min).

2.8.7. Increase at 30-minute intervals according to regime table above a maximum rate of 96 mls/hour (=32mU/min) to achieve a co-ordinated contraction pattern of 4 contractions in 10 minutes. The uterus should be palpated between contractions to ensure full relaxation. Prior to increasing Oxytocin palpate the uterine contractions ensuring they do not exceed 4 in 10 minutes.

2.8.8. In the 2nd stage of labour, the infusion may be increased at shorter intervals as per instructions of a senior obstetrician. This should be clearly documented in the notes.

2.8.9. The Oxytocin Regime:

		10 iu Oxytocin in 500mls Sodium Chloride 0.9%
Time after starting (minutes)	Infusion rate (mls per hour)	Dose of oxytocin (mU/minute)
0	6	2
30	12	4
60	24	8
90	36	12
120	48	16
150	60	20
180	72	24
210	84	28
240	96	32

2.9. **Fluid Restricted Regime**

2.9.1. When a patient is being fluid restricted during labour e.g. patients with pre-eclampsia but require an oxytocin infusion a reduced volume regime is available.

2.9.2. Dilution of 10iu Oxytocin in 49ml Normal Saline given via a syringe driver.

2.9.3. Commence infusion at 0.6mls/hr.

2.9.4. Reduced Volume regime

Time after starting (minutes)	Infusion Rate (mls per hour)	Dose of Oxytocin (mU/minute)
0	0.6	2
30	1.2	4
60	2.4	8
90	3.6	12
120	4.8	16
150	6.0	20
180	7.2	24
210	8.4	28
240	9.6	32

2.10. **When to stop oxytocin**

- If the CTG trace is “abnormal” or there is a prolonged deceleration.
- Uterine hypercontractility.
- A full assessment of fetal condition should be undertaken by an obstetrician and the Oxytocin recommenced only on the instructions of the obstetrician.

3. Monitoring compliance and effectiveness

Information Category	Detail of process and methodology for monitoring compliance
Element to be monitored	Monitoring Tool
Lead	Audit Midwives
Tool	• Was an abdominal palpation performed and documented prior to commencing oxytocin? • Was there a comprehensive review by an obstetrician (SpR or above) within 30 minutes of arrival on delivery suite? • Was the use of oxytocin prescribed and documented by an obstetrician (SpR or above) before it commenced? • Was there a “Normal” CTG prior to commencing oxytocin? • Was the oxytocin reduced if contracting > 4:10 or CTG was abnormal? • Was oxytocin stopped if an “abnormal” CTG was noted? • Was terbutaline administered if hyperstimulation was identified? • Was the woman reviewed by the SpR at a minimum of every 6 hours? • Was a consultant involved in the decision to commence Oxytocin infusion in the second stage of a multiparous woman?
Frequency	Once in the lifetime of the guideline or earlier if identified through risk management.
Reporting arrangements	Results will be discussed at Audit Review Team (ART) meeting.
Acting on recommendations and Lead(s)	Any deficiencies identified on the annual report will be discussed at the ART meeting and an action plan developed. Action leads will be identified and a time frame for the action to be completed by. The action plan will be monitored by Maternity Risk Management until all actions complete.
Change in practice and lessons to be shared	Required changes to practice will be identified and actioned within a time frame agreed on the action plan. A lead member will be identified to take each change forward where appropriate. The results of the audits will be distributed to all staff through the risk management newsletter as per the action plan.

4. Equality and Diversity

4.1. This document complies with the Royal Cornwall Hospitals NHS Trust service Equality and Diversity statement which can be found in the Equality Diversity And Inclusion Policy or the Equality and Diversity website.

4.2. Equality Impact Assessment

The Initial Equality Impact Assessment Screening Form is at Appendix 2.

Appendix 1. Governance Information

Information Category	Detailed Information
Document Title:	Oxytocin in the First and Second Stage of Labour Clinical Guideline V3.2
This document replaces (exact title of previous version):	Oxytocin in the First and Second Stage of Labour Clinical Guideline V3.1
Date Issued/Approved:	April 2024
Date Valid From:	April 2024
Date Valid To:	October 2026
Directorate / Department responsible (author/owner):	Sophie Haynes, Obstetric Consultant
Contact details:	01872 252729
Brief summary of contents:	This guideline is for obstetricians and midwives and gives guidance on the use of Oxytocin in the first and second stage of labour, including assessment prior to the commencement of Oxytocin, dose schedule, monitoring arrangements for the woman and the fetus and on-going management of a woman with Oxytocin in labour.
Suggested Keywords:	Oxytocin, oxytocin, augmentation, induction, labour, stage, first, second, first, second.
Target Audience:	**RCHT:** Yes **CFT:** No **CIOS ICB:** No
Executive Director responsible for Policy:	Chief Medical Officer
Approval route for consultation and ratification:	Maternity Guidelines Group.
Manager confirming approval processes:	Caroline Chappell
Name of Governance Lead confirming consultation and ratification:	Tamara Thirlby
Links to key external standards:	CNST 2.5
Related Documents:	RCHT (2015) Induction of labour – Clinical Guideline.

Information Category	Detailed Information
	NICE (2014) CG190 Intrapartum care. British National Formulary. Royal College of Obstetricians and Gynaecologists (2007) Birth after previous caesarean section. RCOG Green-top Guideline no. 45. London: RCOG Press.
Training Need Identified?	No
Publication Location (refer to Policy on Policies – Approvals and Ratification):	Internet and Intranet
Document Library Folder/Sub Folder:	Clinical / Midwifery and Obstetrics

Version Control Table

Date	Version Number	Summary of Changes	Changes Made by
May 2007	1.0	Initial document.	Mr Rob Holmes, Consultant Obstetrician
January 2012	1.1	Updated in line with NICE guidance.	Miss Lisa Verity, Consultant Obstetrician
May 2012	1.2	Compliance monitoring added and sticker for health records.	Miss Karen Watkins, Consultant Obstetrician
21 May 2015	1.3	Advice upon when to recommence Oxytocin following a Pathological FHR trace / fetal bradycardia. Change of terminology for CTG classification according to new NICE guidance.	Miss Karen Watkins, Consultant Obstetrician
2 March 2017	1.4	Oxytocin regime amended in line with ROCG endorsed Oxytocin regime and minor changes point 2.6.	Miss Karen Watkins. Sally Budgen, Fetal Monitoring Lead Midwife

Date	Version Number	Summary of Changes	Changes Made by
August 2019	1.5	Amendments to Section 2 following recommendations from the Health Safety Investigation Branch (HSIB) regarding escalation to an Obstetrician.	Sarah-Jane Pedler, Practice Development Midwife
May 2020	2.0	Addition of inclusion statement 1.4, 2.0, 2.5, 2.5.1 addition of 30-minute reviews and 6 hourly reviews for women on Oxytocin infusions.	Julie Walton, Audit Midwife
September 2023	3.0	Change of terminology from “pathological” to “abnormal”. 2.6.4 - after stopping oxytocin, if the fetal bradycardia continues then consider terbutaline (New 2023).	Sophie Haynes, Obstetric Consultant
March 2024	3.1	Addition of appendix 3 noted in 2.3.	Catherine Wills, Practice Development Midwife
April 2024	3.2	Addition of 2.9 - fluid restricted regime	Catherine Wills, Practice Development Midwife

Appendix 2. Equality Impact Assessment

Section 1: Equality Impact Assessment (EIA) Form

The EIA process allows the Trust to identify where a policy or service may have a negative impact on an individual or particular group of people.

For guidance please refer to the Equality Impact Assessment Policy (available from the document library) or contact the Equality, Diversity, and Inclusion Team rcht.inclusion@nhs.net

Information Category	Detailed Information
Name of the strategy / policy / proposal / service function to be assessed:	Oxytocin in the First and Second Stage of Labour Clinical Guideline V3.2
Directorate and service area:	Obstetrics and Gynaecology
Is this a new or existing Policy?	Existing
Name of individual completing EIA (Should be completed by an individual with a good understanding of the Service/Policy):	Catherine Wills, Maternity Guidelines Midwife
Contact details:	01872 255019

Information Category	Detailed Information
1. Policy Aim - Who is the Policy aimed at? (The Policy is the Strategy, Policy, Proposal or Service Change to be assessed)	Guidance for Midwives and Obstetricians on the use of Oxytocin in the first and second stage of labour.
2. Policy Objectives	Safe administration of Oxytocin in first and second stage of labour.
3. Policy Intended Outcomes	Safe delivery of woman and baby.
4. How will you measure each outcome?	Compliance Monitoring Tool.
5. Who is intended to benefit from the policy?	All women in labour.

Information Category	Detailed Information
6a. Who did you consult with? (Please select Yes or No for each category)	• Workforce: Yes • Patients/ visitors: No • Local groups/ system partners: No • External organisations: No • Other: No
6b. Please list the individuals/groups who have been consulted about this policy.	**Please record specific names of individuals/ groups:** Maternity Guidelines Group.
6c. What was the outcome of the consultation?	Guideline Agreed.
6d. Have you used any of the following to assist your assessment?	**National or local statistics, audits, activity reports, process maps, complaints, staff, or patient surveys:** No

7. The Impact

Following consultation with key groups, has a negative impact been identified for any protected characteristic? Please note that a rationale is required for each one.

Where a negative impact is identified without rationale, the key groups will need to be consulted again.

Protected Characteristic	(Yes or No)	Rationale
Age	No	
Sex (male or female)	No	
Gender reassignment (Transgender, non-binary, gender fluid etc.)	No	
Race	No	
Disability (e.g. physical or cognitive impairment, mental health, long term conditions etc.)	No	
Religion or belief	No	
Marriage and civil partnership	No	

Protected Characteristic	(Yes or No)	Rationale
Pregnancy and maternity	No	
Sexual orientation (e.g. gay, straight, bisexual, lesbian etc.)	No	

A robust rationale must be in place for all protected characteristics. If a negative impact has been identified, please complete section 2. If no negative impact has been identified and if this is not a major service change, you can end the assessment here.

I am confident that section 2 of this EIA does not need completing as there are no highlighted risks of negative impact occurring because of this policy.

Name of person confirming result of initial impact assessment: Catherine Wills, Maternity Guidelines Midwife.

If a negative impact has been identified above OR this is a major service change, you will need to complete section 2 of the EIA form available here:
Section 2. Full Equality Analysis

Appendix 3. Commencing and Use of Oxytocin Infusion in Labour form

CHA3042: Commencing and Use of Oxytocin Infusion in Labour (cornwall.nhs.uk)