CLINICAL GUIDELINE

Oxytocin (Syntocinon), Obstetrics

A guideline is intended to assist healthcare professionals in the choice of disease-specific treatments.

Clinical judgement should be exercised on the applicability of any guideline, influenced by individual patient characteristics. Clinicians should be mindful of the potential for harmful polypharmacy and increased susceptibility to adverse drug reactions in patients with multiple morbidities or frailty.

If, after discussion with the patient or carer, there are good reasons for not following a guideline, it is good practice to record these and communicate them to others involved in the care of the patient.

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Important Note:

The Intranet version of this document is the only version that is maintained.
Any printed copies should therefore be viewed as 'Uncontrolled' and as such, may not necessarily contain the latest updates and amendments.

Greater Glasgow & Clyde
Obstetric Formulary & Guideline Page

Oxytocin (Syntocinon®)

BNF 7.1.1 PROSTAGLANDINS AND OXYTOCICS

Oxytocin 10units/ml injection, 10units in 500ml prepared infusion bags. 40units in 500ml for use in Postpartum haemorrhage, prepared on Labour Ward.

Note - Oxytocin is a potentially dangerous medicine. As it is in common use this fact may not be respected. Misuse of Oxytocin in Labour is a common criticism in Obstetric litigation. Prolonged intravenous administration at high doses with large volume of fluid (as possible in inevitable or missed abortion or post partum haemorrhage) may cause water intoxication with hyponatraemia. To avoid: use electrolyte containing diluent (i.e. not glucose) increase oxytocin concentration to reduce fluid, restrict fluid intake by mouth; monitor fluid and electrolytes.

Applicable unit policies:

- **Adult IV drug Monographs folder**
- **Anaesthesia / Analgesia - Syntocinon infusion during caesarean section post delivery**
- **Caesarean Section**
- **Oxytocin.**
- **Syntocinon Pumps.**
- **Second stage - management of 2nd stage of labour in Primigravid women Spontaneous labour**
- **Midwifery formulary - Oxytocin.**
- **Postpartum Haemorrhage.**
- **Fetal loss guidelines**

Indications:

1. **Management of third stage labour (unlicensed obstetric use).**
2. **Induction of labour - separate doses for primigravida women, parous women and those women undergoing vaginal birth after Caesarean section.**
3. **Augmentation of labour - separate doses for primigravida women, parous women and those women undergoing vaginal birth after Caesarean section.**
4. **Delivery of second twin**
5. **Caesarean section as prophylaxis against PPH**
6. **Postpartum Haemorrhage.**
7. **Incomplete, inevitable, or missed abortion**

Table 1. Oxytocin infusion 10 units in 500ml

Time after starting (minutes)	Oxytocin dose (milliunits per minute)	Volume infused (ml/hour) of dilution Oxytocin 10 units in 500ml
0	1	3
30	2	6
60	4	12
90	8	24
120	12	36
150	16	48
180	20	60
210 *	24	72
240 *	28	84
270 *	32	96

Doses highlighted with (*) are quantities above those referred to in the summary of product characteristics of 20 milliunits per minute.

Indication: 1. Management of third stage labour.

Drug	Dose	No. of doses	Route
Oxytocin 10units/ml inj.	10units (1ml)	One dose only, give with or after delivery of the shoulders.	I.M.

Indication: 2. Induction of labour.

Induction of labour should be for a clearly documented reason. Such patients must have had a spontaneous rupture of membranes or have had a forewater amniotomy performed prior to commencement of oxytocin.

Primigravida Women - See BNF for restrictions on use.

Drug		Dose Primigravida Women	No. of doses	Route
Oxytocin infusion 10 units in 500ml Compound Sodium Lactate	Initial infusion rate set at	1mU/minute (3ml/hour)	Continuous	I.V. Inf.
	It may be gradually increased at intervals no shorter than 30 minutes, until a contraction pattern similar to that of normal labour is established. Aim for 3 good contractions in 10 minutes.	In practice this is achieved by doubling the dose at intervals of no less than 30 minutes to a maximum of 20mU/minute (60ml/hour). Further increase (see chart above) should be after discussion with Middle grade obstetrician.	Continuous	I.V. Inf.

Indication: 2. Induction of labour – continued.

Induction of labour should be for a clearly documented reason. Such patients must have had a spontaneous rupture of membranes or have had a forewater amniotomy performed prior to commencement of oxytocin.

Parous women- See BNF for restrictions on use.

These women have a significant risk of uterine rupture, whether or not they have had a previous caesarean section, and whether or not they are in spontaneous or induced labour. The maximum dose should be at a rate of 16mU/minute (48ml/hour). **Dose increases above this must be documented in case notes by senior obstetric staff (Middle Grade rota or above).**

OXYTOCIN IS ADMINISTERED TO ACHIEVE 3 GOOD CONTRACTIONS IN 10 MINUTES. THE DOSE CAN OFTEN BE REDUCED TO MAINTAIN THIS. ONCE IN ESTABLISHED LABOUR A PAROUS WOMAN IS UNLIKELY TO NEED ESCALATING DOSES OF OXYTOCIN. It is uncommon for a Parous women in spontaneous labour to require augmentation with oxytocin. Poor progress in both the first and second stage of labour indicates the need to exclude the following: malposition, malpresentation, Cephalopelvic, disproportion. Such patients require assessment by a middle grade obstetrician prior to discussion with a consultant.

Drug		Dose Parous patients	No. of doses	Route
Oxytocin infusion 10 units in 500ml Compound Sodium Lactate	Initial infusion rate set at	1mU/minute (3ml/hour)	Continuous	I.V. Inf.
	It may be gradually increased at intervals no shorter than 30 minutes, until a contraction pattern similar to that of normal labour is established. Aim for 3 good contractions in 10 minutes.	In practice this is achieved by doubling the dose at intervals of no less than 30 minutes to a maximum of 16mU/minute (48ml/hour).	Continuous	I.V. Inf.

Indication: 3. Augmentation of labour.

This refers to women diagnosed as being established in labour but who have slow progress which is suspected to be due to inefficient (in-coordinate) uterine contractions. Membrane rupture must have occurred, whether spontaneous or artificially. Augmentation is different from induction. Evidence of a positive effect should be apparent in the next assessment.

Primigravida Women - See BNF for restrictions on use.

Drug		Dose Primigravida Women	No. of doses	Route
Oxytocin infusion 10 units in 500ml Compound Sodium Lactate	Initial infusion rate set at	1mU/minute (3ml/hour)	Continuous	I.V. Inf.
	It may be gradually increased at intervals no shorter than 30 minutes, until a contraction pattern similar to that of normal labour is established. Aim for 3 good contractions in 10 minutes.	In practice this is achieved by doubling the dose at intervals of no less than 30 minutes to a maximum of 20mU/minute (60ml/hour). If commenced for first time in 2nd stage of labour, intervals of no less than 20 minutes may be used.	Continuous	I.V. Inf.

Parous women- See BNF for restrictions on use.

***Prior to commencing oxytocin for augmentation of labour in parous women an obstetrician (Middle Grade rota or above) should perform a clinical assessment including a vaginal examination to exclude any evidence of obstructed labour, malposition, and /or malpresentation or CPD. A clinical assessment including a repeat V/E should be performed after 2 hours of oxytocin to ensure effective progress.**

These women have a significant risk of uterine rupture. Particularly high risk groups are women with previous caesarean section or high parity (para >4), the maximum dose should be at a rate of 16mU/minute (48ml/hour). **Dose increases above this must be documented in case notes by senior obstetric staff (Middle Grade rota or above).**

Drug		Dose Parous patients	No. of doses	Route
Oxytocin infusion 10 units in 500ml Compound Sodium Lactate	Initial infusion rate set at	1mU/minute (3ml/hour)	Continuous	I.V. Inf.
	It may be gradually increased at intervals no shorter than 30 minutes, until a contraction pattern similar to that of normal labour is established. Aim for 3 good contractions in 10 minutes.	In practice this is achieved by doubling the dose at intervals of no less than 30 minutes to a maximum of 16mU/minute (48ml/hour). Only a consultant can commence oxytocin for first time in 2nd stage of labour.	Continuous	I.V. Inf.

Indication: 4. Delivery of second twin in those women who do not have an oxytocin infusion running and after confirming a longitudinal lie and a normal CTG.

Drug	Dose		No. of doses	Route
Oxytocin infusion 10 units in 500ml Compound Sodium Lactate	Initial infusion rate set at	2mU/minute (6ml/hour)	Continuous	I.V. Inf.
	It may be gradually increased at intervals no shorter than 20 minutes, until a contraction pattern similar to that of normal labour is established. Aim for 3 good contractions in 10 minutes.	In practice this is achieved by doubling the dose at intervals of no less than 20 minutes to a maximum of 16mU/minute (48ml/hour).	Continuous	I.V. Inf.

Indication: 5. Post Caesarean Section prophylaxis

Elective and emergency Caesarean Section are associated with increase risk of PPH. Uterine atony after long labour. Multiple pregnancy and high parity are particular risks

Drug	Dose	No. of doses	Route
Oxytocin injection	5 units after delivery of the baby then see below	once only	IV BOLUS slowly
Oxytocin infusion equivalent to 15 units in a fresh bag of 500ml Compound Sodium Lactate.	Aim for infusion to be administered over at least 30 minutes.	Continuous	I.V. Inf.

Notes

*Oxytocin Maximum dose should rarely exceed 50 units total.

Indication: 6. Postpartum Haemorrhage.

Drug	Dose	No. of doses	Route
Oxytocin infusion 40 units in 500ml Compound Sodium Lactate.*	125ml/ hour.	Continuous	I.V. Inf.

* In fluid restricted patients Oxytocin 40 units in 40ml Sodium Chloride 0.9% infused IV at 10ml /hr may be considered.

Indication: 7. Incomplete, inevitable or missed abortion – when prostaglandins have not been successful or are contraindicated.

Drug	Dose	No. of doses	Route
Oxytocin injection	5 units then see below if necessary	Once only	IV BOLUS slowly
Oxytocin infusion 10 units in 500ml Compound Sodium Lactate.	Initially 20 to 40 milliunits/minute (60ml/hr to 120ml/hr) or higher	Continuous	I.V. Inf.

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