Drug Therapy Protocols: Oxytocin

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Date	September, 2024
Purpose	To ensure a consistent procedural approach to oxytocin administration.
Scope	Applies to all Queensland Ambulance Service (QAS) clinical staff.
Health care setting	Pre-hospital assessment and treatment.
Population	Applies to all ages unless specifically mentioned.
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Oxytocin

Drug class

Oxytocic [1,2]

Pharmacology

Synthetic oxytocin is a uterine stimulant that causes uterine contractions by changing calcium concentrations within uterine muscle cells. Oxytocin administered during the third stage of labour assists with placental separation, raises the tone of the uterine musculature and minimises further uterine blood loss. [1,2]

Metabolism

Oxytocin is metabolised by the liver and excreted by the kidneys. [1]

Indications [1–4]

- **Active management of the third stage of labour** (following confirmed delivery of all fetuses) AND **the prevention of primary post-partum haemorrhage**
- **Management of uncontrolled primary or secondary post-partum haemorrhage**

Contraindications

- Allergy AND/OR Adverse Drug Reaction
- Undelivered fetuses

Precautions

- Myocardial ischaemia
- May potentiate hypotension when administered with analgesia

Side effects [1,2]

- Nausea and/or vomiting
- Headache
- Bradycardia
- Tachycardia

Presentation

- Ampoule, 10 International units (IU) / 1 mL

Onset	Duration	Half-life
IM 2–4 minutes	30–60 minutes	N/A

Schedule

- S4 (Restricted drugs).

Routes of administration

Intramuscular injection (IM)	ACP2, CCP
Intravenous injection (IV)	ACP2, CCP
Intraosseous injection (IO)	CCP
Intravenous/Intraosseous infusion (IV/IO INF)	CCP

Special notes

- Ambulance officers must only administer medications for the listed indications and dosing range. Any consideration for treatment outside the listed scope of practice requires mandatory approval via the *QAS Clinical Consultation and Advice Line*.
- GH Oxytocin is only stable at room temperature for 3 months following delivery – for further information please refer to the *QAS Drug Management Code of Practice*.
- Latex allergy may be an important predisposing risk factor for anaphylaxis following oxytocin administration.
- The use of uterotonics for the prevention of postpartum haemorrhage during the third stage of labour is recommended for all births.[1]

Special notes *(cont.)*

- When oxytocin is administered for the management of the third stage of labour, multiple births must be excluded prior to the drug being administered.
- Oxytocin is only to be administered to the consenting patient who agrees to an active management of the third stage of labour. Women who prefer a physiological management must birth the placenta unaided, by maternal effort and the natural force of gravity.
- To allow for the benefits of delayed cord clamping it is acceptable to do a modified active third stage management by waiting until the cord has stopped pulsating to administer oxytocin. This is particularly important in neonatal resuscitation where the baby is resuscitated between the birthing parent's legs (where appropriate) to receive the benefit of a pulsing cord and placental perfusion.
- Skin to skin contact and initiation of breastfeeding should occur in addition to the use of uterotonic medications to promote natural oxytocin release and promote normothermia, maternal/neonatal bonding and early breastfeeding.

Oxytocin

Adult dosages [1–4]

Active management of the third stage of labour (following confirmed delivery of all fetuses) AND the prevention of primary post-partum haemorrhage

ACP2 CCP	IM	**10 International Units** **Single dose only.**

Management of uncontrolled primary or secondary post-partum haemorrhage

ACP2 CCP	IV	**Loading dose – 10 International Units** Slow push over 2–5 minutes. **May be in given in addition to a dose that may have been administered for: Active management of the third stage of labour/the prevention of primary PPH.**
CCP	IO	**Loading dose – 10 International Units** Slow push over 2–5 minutes. **May be in given in addition to a dose that may have been administered for: Active management of the third stage of labour/the prevention of primary PPH.**
CCP	IV/IO INF	**Maintenance dose – 10 International Units/hour** ***Infusion preparation:*** *Mix 10 International Units oxytocin (1 mL) with 19 mL of sodium chloride 0.9% in a 20 mL syringe to achieve a final concentration of 10 International Units/20 mL. Ensure syringe is appropriately labelled. Administer infusion via Perfusor® space at 20 mL/hr.*

Paediatric dosages

Note: QAS officers are **NOT** authorised to administer oxytocin to paediatric patients.