

South Australian Paediatric Clinical Guidelines

Oxytocin high dose regimen for intrauterine fetal death

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Introduction

- > Oxytocin (Syntocinon®) is synthetic oxytocin, a nonapeptide hormone normally released by the posterior lobe of the pituitary. Being wholly synthetic, it does not contain vasopressin and has a constant and reliable effect (Novartis 1994)
- > Oxytocin stimulates the smooth muscle of the uterus, producing rhythmic contractions. It also causes contraction of the myo-epithelial cells surrounding the mammary alveoli (Novartis 1994)
- > Infusion rates ≥ 20 mU / min can decrease free water clearance by the kidney via interaction with the vasopressin receptor in the kidney, resulting in water intoxication (Smith and Merrill 2006)
- > Because of low concentrations of oxytocin receptors, the effectiveness of oxytocin for inducing labour in the second trimester of pregnancy is generally poor (Smith and Merrill 2006)

Indications

- > oxytocin is used to initiate uterine contractions and to maintain labour until delivery of the fetus is achieved
- > For induction of labour after intrauterine fetal death (IUFD), the conventional oxytocin regimen should be used if gestation is > 34 weeks (see in PPG, oxytocin: augmentation and induction of labour infusion regimens)
- > The oxytocin high dose regimen for IUFD is used at < 34 weeks of gestation or when other methods of induction have failed
- > It can also be used for genetic termination of pregnancy when other methods of induction have failed

Contraindications for a high dose regimen

- > Uterine scar
- > Grand multiparity
- > Live viable fetus

Dosage and administration

- > The oxytocin high dose infusion is run as a separate line piggy-backed into the main line
- > Prepare a main line infusion of either Hartmann's or 0.9 % sodium chloride (to keep vein open)
- > Prepare a side line infusion of 100 units (10 ampoules) of oxytocin in either 1 litre of Hartmann's or 0.9 % sodium chloride and follow administration regimen as per table below
- > Aim for 3 to 4 moderate to strong contractions per 10 minutes
- > Do not exceed a oxytocin infusion rate of 60 mL / hour (100 mU / min)
- > Continue regimen until delivery of the fetus
- > Active management of third stage with 5-10 units of intravenous oxytocin given slowly

Table 102b
Oxytocin
high dose

Draw up 100 IU (10 ampoules) Oxytocin and add to 1 litre of either Hartmann's or 0.9 % sodium chloride solution		
Initial rate	increments	maximum
ISBN number: Endorsed by: 6 mL / hour (10 mU / min)	UNKNOWN South Australian Paediatric Clinical Guidelines Reference Committee. South Australian Child Health Clinical Network South Australian Paediatric Clinical Guidelines Reference Committee: osw@paediatricclinicalguidelines@health.sa.gov.au strong contractions in 10 minutes are achieved)	60 mL / hour (100 mU / min)

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infusion regimen for IUFD

Observations

Assess the following

- > Pulse and respirations and contractions every half hour while increasing intravenous oxytocin dosage
- > Blood pressure, descent of presenting part, per vaginam loss every hour
- > Temperature every 4 hours (every hour if febrile)
- > Maintain fluid balance chart and restrict additional fluids if infusion rate exceeds 40 mL / hour
- > Need for pain relief

Observe for symptoms and signs of water intoxication

- > Headache, nausea, vomiting and abdominal pain
- > Lethargy, drowsiness
- > Low blood electrolyte concentration
- > Urinary output

References

1. Smith JG, Merrill DC. Oxytocin for induction of labor. Clin Obstet Gynecol 2006; 49: 594-608 (Level IV)
2. McDonald S, Abbott JM, Higgins SP. Prophylactic ergometrine-oxytocin versus oxytocin for the third stage of labour (Cochrane Review). In: The Cochrane Library, Issue 2, 2004. Chichester, UK: John Wiley & Sons, Ltd (Level I).
3. Novartis Pharmaceuticals Australia. Syntocinon® (synthetic oxytocin). Product information Australia 1994.

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Abbreviations

IUFD	Intrauterine fetal death
mU	milliunits
min	minute
mL	millilitre/s

Version control and change history

PDS reference: OCE use only

Version	Date from	Date to	Amendment
1.0	18 Dec 06	18 May 10	Original version
2.0	18 May 10	15 Jan 13	Reviewed
3.0	15 Jan 13	current	

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