

South Australian Perinatal Practice Guideline

Oxytocin high dose regimen for intrauterine fetal death

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Note:

This guideline provides advice of a general nature. This statewide guideline has been prepared to promote and facilitate standardisation and consistency of practice, using a multidisciplinary approach. The guideline is based on a review of published evidence and expert opinion.

Information in this statewide guideline is current at the time of publication.

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Health practitioners in the South Australian public health sector are expected to review specific details of each patient and professionally assess the applicability of the relevant guideline to that clinical situation.

If for good clinical reasons, a decision is made to depart from the guideline, the responsible clinician must document in the patient's medical record, the decision made, by whom, and detailed reasons for the departure from the guideline.

This statewide guideline does not address all the elements of clinical practice and assumes that the individual clinicians are responsible for discussing care with consumers in an environment that is culturally appropriate and which enables respectful confidential discussion. This includes:

- The use of interpreter services where necessary,
- Advising consumers of their choice and ensuring informed consent is obtained,
- Providing care within scope of practice, meeting all legislative requirements and maintaining standards of professional conduct, and
- Documenting all care in accordance with mandatory and local requirements

Explanation of the aboriginal artwork:

The aboriginal artwork used symbolises the connection to country and the circle shape shows the strong relationships amongst families and the aboriginal culture. The horse shoe shape design shown in front of the generic statement symbolises a woman and those enclosing a smaller horse shoe shape depicts a pregnant women. The smaller horse shoe shape in this instance represents the unborn child. The artwork shown before the specific statements within the document symbolises a footprint and demonstrates the need to move forward together in unison.



Australian Aboriginal Culture is the oldest living culture in the world yet Aboriginal people continue to experience the poorest health outcomes when compared to non-Aboriginal Australians. In South Australia, Aboriginal women are 2-5 times more likely to die in childbirth and their babies are 2-3 times more likely to be of low birth weight. The accumulative effects of stress, low socio economic status, exposure to violence, historical trauma, culturally unsafe and discriminatory health services and health systems are all major contributors to the disparities in Aboriginal maternal and birthing outcomes. Despite these unacceptable statistics the birth of an Aboriginal baby is a celebration of life and an important cultural event bringing family together in celebration, obligation and responsibility. The diversity between Aboriginal cultures, language and practices differ greatly and so it is imperative that perinatal services prepare to respectively manage Aboriginal protocol and provide a culturally positive health care experience for Aboriginal people to ensure the best maternal, neonatal and child health outcomes.

Purpose and Scope of Perinatal Practice Guideline

The purpose of this guideline is to provide clinicians with information on high dose oxytocin regimen, specifically for use with intrauterine fetal death. It details medication information, dosage, administration and observations.



Oxytocin high dose regimen for intrauterine fetal death

Table I: Oxytocin high dose infusion regimen for IUFD

Draw up 100 units (10 ampoules) oxytocin and add to 1 litre of either Hartmann's or 0.9 % sodium chloride solution		
Initial rate	increments	maximum
6 mL / hour (10 mU / min)	Every 30 minutes (until 3-4 moderate to strong contractions in 10 minutes are achieved)	60 mL / hour (100 mU / min)



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Summary of Practice Recommendations

The oxytocin high dose regimen for IUFD is used at < 34 weeks of gestation or when other methods of induction have failed.

Uterine scar, grand multiparity and a live viable fetus are contraindications for use.

Observe for signs and symptoms of water intoxication.

Abbreviations

IUFD	Intrauterine fetal death
mU	Milliunit(s)
min	Minute
mL	Millilitre(s)



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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 effect¹
- > Oxytocin stimulates the smooth muscle of the uterus, producing rhythmic contractions. It also causes contraction of the myo-epithelial cells surrounding the mammary alveoli¹
- > 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^{2,3}
- > Because of low concentrations of oxytocin receptors, the effectiveness of oxytocin for inducing labour in the second trimester of pregnancy is generally poor²

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 an 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



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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



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References

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2. Smith JG, Merrill DC. Oxytocin for induction of labor. Clin Obstet Gynecol 2006; 49: 594-608 (Level IV)
3. Australian Medicines Handbook: Oxytocin available from URL:
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