

Clinical Guideline

Ergot Derivatives: Prophylaxis for Third Stage Management and Postpartum Haemorrhage

Policy developed by: SA Maternal & Neonatal Community of Practice
Approved SA Health Safety & Quality Strategic Governance Committee on:
19 April 2016
Next review due: 19 April 2019

Summary Clinical practice guideline on the use of ergot derivatives for prophylaxis of third stage management and for postpartum haemorrhage

Keywords ergot derivatives prophylaxis for third stage management and postpartum haemorrhage, ergot, oxytocin, syntometrine, ergometrine, methylergometrine, hypertension, preeclampsia, intramuscular, uterine atony, cerebrovascular accident, clinical guideline

Policy history Is this a new policy? **N**
Does this policy amend or update an existing policy? **Y 2.0**
Does this policy replace an existing policy? **N**
If so, which policies?

Applies to All SA Health Portfolio

Staff impact All Staff, Management, Admin, Students, Volunteers
All Clinical, Medical, Nursing, Allied Health, Emergency, Dental, Mental Health, Pathology

PDS reference CG232

Version control and change history

Version	Date from	Date to	Amendment
1.0	23 Jun 2009	18 Sep 2012	Original version
2.0	18 Sep 2012	19 April 2016	Reviewed
3.0	19 April 2016	Current	

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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.



Ergot derivatives: prophylaxis for third stage management and postpartum haemorrhage

Introduction

- > This guideline discusses the use of ergot derivatives for prophylaxis of the third stage of labour and in the management of postpartum haemorrhage
- > Oxytocin (Syntocinon®) is the uterotonic of choice for prophylaxis for active management for third stage because of its rapid onset of action and minimal side effects (see 'Oxytocin: prophylaxis for the third stage of labour and postpartum haemorrhage management' in the A to Z index at www.sahealth.sa.gov.au/perinatal)
- > Intramuscular Syntometrine® (oxytocin and ergometrine) is an alternative for prophylaxis for active management for third stage
- > If the uterus fails to contract after delivery of the placenta, there are two main pharmacological options for **first line management of postpartum haemorrhage due to uterine atony**
 - > Administer another dose of **oxytocin** (Syntocinon®), either intramuscular or intravenous
 - > OR administer an **Ergot derivative, e.g.** Syntometrine® intramuscular, ergometrine or methylergometrine (see below)
- > This may also be followed by preparation and administration of a 40 international units oxytocin (Syntocinon®) infusion if postpartum haemorrhage continues (see in 'Oxytocin: prophylaxis for the third stage of labour and postpartum haemorrhage management' in the A to Z index at www.sahealth.sa.gov.au/perinatal)

Syntometrine® (ergometrine maleate; oxytocin)

- > Syntometrine® contains 0.5 mg ergometrine maleate and 5 units oxytocin per mL
- > It combines the rapid uterine action of oxytocin with the sustained uterotonic effect of ergometrine
- > Compared with oxytocin (Syntocinon®), use of Syntometrine® is associated with a small but statistically significant reduction in the frequency of postpartum haemorrhage¹
- > **This preparation is contraindicated in women with hypertension or preeclampsia**

Indications

- > Prophylaxis in management of the third stage of labour
- OR
- > As a single **intramuscular** dose for first line management of postpartum haemorrhage due to uterine atony

Dosage and administration

- > **Administer by intramuscular injection only**
- > The usual prophylactic dose is 1 mL intramuscular after delivery of the anterior shoulder¹
- > The onset of action is within 2–3 minutes, which lasts for approximately 3 hours

Ergot derivatives: prophylaxis for third stage management and postpartum haemorrhage

Side effects

- > Usually well tolerated although some women may have nausea and vomiting
- > Hypertension, abdominal pain and headache are infrequent
- > Ischaemic heart disease, hypertension and peripheral vascular disease may be exacerbated by vasoconstriction

Contraindications

- > Hypertension including preeclampsia

Ergometrine

Mechanism of action

- > Stimulates continuous contraction of uterine and vascular smooth muscle
- > The intramuscular administration of ergometrine results in a sustained tonic uterine contraction via stimulation of myometrial α -adrenergic receptors (see table below)
- > Intravenous administration enhances the side effects of hypertension, nausea and vomiting (see table below)

Indications

- > Ergometrine is **not** recommended for prophylaxis in the third stage because of significant adverse effects compared with oxytocin alone
- > For first line management of postpartum haemorrhage due to uterine atony, ergometrine is usually given as a single intramuscular dose (250 micrograms)
- > Absorption characteristics may change in the presence of hypovolaemia and peripheral shut down. IV access and IV Ergometrine (see below for dosage) may be a better strategy if there has been considerable blood loss

Ergometrine 500 micrograms in 1 mL		
	Dosage and administration	Onset of action
Intramuscular	> 250 micrograms IM	> within 7 minutes and lasts for approximately 3 hours
Intravenous	> Draw up 250 micrograms in 0.5 mL and add 4.5 mL sodium chloride 0.9 % (5 mL in total) > Administer in 25-50 microgram boluses (50 micrograms per 1 mL). Can be repeated after 2-3 minutes to a total of 250 micrograms	> rapid - less than 1 minute and lasts 45 minutes



Ergot derivatives: prophylaxis for third stage management and postpartum haemorrhage

Side effects

- > Usually well tolerated, however nausea and vomiting may occur
- > Adverse effects are more common with the intravenous route
- > Hypertension, abdominal pain and headache are infrequent
- > Ischaemic heart disease, hypertension and peripheral vascular disease may be exacerbated by vasoconstriction

Contraindications

- > Hypertension including preeclampsia, cardiac disease

Methylergometrine

- > Methylergometrine differs little from ergometrine in its pharmacokinetics
- > Methylergometrine may be obtained under the special access scheme (SAS) in the event of a shortage of ergometrine in Australia

Indications

- > Methylergometrine is not recommended for prophylaxis for third stage management due to significant adverse effects
- > For first line management of postpartum haemorrhage due to uterine atony, methylergometrine is usually given as a single intramuscular dose

Dosage and administration

- > 200 micrograms in 1 mL
- > Intramuscular dosage: 200 micrograms
- > Intravenous dosage: 200 micrograms over at least 1 minute

Side effects

- > Sudden hypertension, cerebrovascular accident, headache, seizure

Contraindications

- > Hypertension including preeclampsia

Ergot derivatives: prophylaxis for third stage management and postpartum haemorrhage

References

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3. Bouwmeester FW, Bolte AC, Van Geijn HP. Pharmacological and surgical therapy for primary postpartum hemorrhage. *Current Pharmaceutical Design* 2005; 11: 759-773.
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5. Sarna MC, Hess P, Takoudes TC, Chaudhury AK. Chapter 9 Postpartum hemorrhage. In: Datta S, editor. *Anesthetic and obstetric management of high risk pregnancy*. Third edition Springer: New York 2004
6. Royal College of Obstetricians and Gynaecologists (RCOG). Prevention and management of postpartum haemorrhage. Green top guideline No. 52, April 2011.

Useful references

- RANZCOG College statements. Available from URL: <http://www.ranzcog.edu.au/>
- > C-Obs 12: The use of misoprostol in obstetrics and gynaecology
 - > C-Obs 43: Management of postpartum haemorrhage

Abbreviations

et al	And others
IV	Intravenous
mg	Milligram(s)
mL	Millilitre(s)
PPH	Postpartum haemorrhage
SAS	Special access scheme

Version control and change history

PDS reference: OCE use only

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1.0	23 Jun 2009	18 Sep 2012	Original version
2.0	18 Sep 2012	19 April 2106	Reviewed
3.0	19 April 2016	Current	
4.0			