



**CLINICAL PRACTICE GUIDELINE**

# Syntometrine: Labour & birth suite- Quick reference guide

This document should be read in conjunction with this [Disclaimer](#)

**Note:** This Quick Reference Guide must be used in conjunction with its respective Clinical Guideline: Obstetrics & Gynaecology, Labour: [Third Stage](#): Active Management

## Syntometrine - Labour & birth suite

### Indications:

- Active management of the third stage of labour for women at high [risk of PPH](#)
- Prevention or treatment of PPH

### Contraindications- DO NOT give when:

- Hypertension / pre-eclampsia/ eclampsia
- Cardiac disease (moderate/severe) or severe peripheral vascular disease; severe hepatic or renal impairment; sepsis
- Unknown history (antenatal or medical) & imminent birth, including precipitous birth where blood pressure not checked
- Fibroids (severe); or allergy to oxytocin / ergometrine

### Precautions- avoid with:

- Ischaemic heart disease; peripheral vascular disease; hypertension; migraine; Raynaud's phenomenon; respiratory disease; chronic anaemia; or pregnancy
- Breech presentations- administer only after birth completed
- Multiple births (including possible undiagnosed multiple birth e.g. no pregnancy ultrasound)- give only after all fetuses have birthed

Note: This QRG represents minimum care & should be read in conjunction with the following information, [Syntometrine](#), PPH & [Third Stage](#) (Active Management) guidelines & relevant guidelines as required. Care should be individualised.

Quick Reference

## Key points

1. For active management of the third stage of labour, intramuscular oxytocin (not Syntometrine) should be the routine drug given.<sup>4</sup>
2. Syntometrine® intramuscular injection is used for active management of the third stage of labour in women identified as high risk for postpartum

haemorrhage (PPH) who do not have any contraindications to its use.

3. For postpartum haemorrhage management where oxytocin is not available or the bleeding does not respond to oxytocin, Syntometrine is recommended<sup>6</sup> (if not already given for prophylaxis or contraindicated).
4. For PPH risks, prevention and management, see KEMH Clinical Guideline, Restricted Area Guidelines (Intranet only) Primary Postpartum Haemorrhage.
5. No more than 2 doses of ergometrine should be given due to the side-effects.<sup>7</sup>

## Background

Syntometrine<sup>®</sup> contains oxytocin 5 units & ergometrine 0.5mg.<sup>7, 8</sup> The oxytocin within intra-muscular Syntometrine acts rapidly (within 2 ½ minutes) and is short acting, whilst the ergometrine acts within 6-7 minutes and lasts 2-4 hours.<sup>7</sup> Associated side effects of ergometrine based medications include elevated blood pressure, nausea, vomiting,<sup>7, 10, 11</sup> vasoconstriction, dizziness, abdominal pain, headache and seizures.<sup>13, 14</sup> In hypertensive women, syntometrine can worsen hypertension and is contraindicated.<sup>4</sup>

A UK report<sup>4, 5</sup> on maternal mortality recommends that the routine use of syntometrine be avoided completely (p.69), with preference given to using intramuscular oxytocin (without ergometrine).

## Indications for use<sup>8, 16</sup>

1. Active management of the third stage of labour
2. Prevention or treatment of PPH. See [Risk Factors for PPH](#) section on next page.

## Contraindications to the use of syntometrine<sup>®</sup>

- Pre-eclampsia<sup>5, 16</sup> or eclampsia,<sup>5, 14</sup> hypertensive disorders<sup>14</sup>
- Moderate-to-severe cardiac disease or severe peripheral vascular disease<sup>16</sup>
- No knowledge of the woman's antenatal and medical history and the birth is imminent, including women with precipitous labours in whom blood pressure has not been checked.<sup>4</sup>
- Severe hepatic impairment<sup>16</sup>, renal failure or sepsis<sup>8</sup> - avoid use as sensitivity to ergometrine is increased<sup>14</sup>
- Severe fibroids<sup>16</sup>; allergy to oxytocin<sup>5, 18</sup> or ergometrine<sup>8</sup>

NB: Although pre-eclampsia,<sup>2, 12</sup> hypertensive disease in pregnancy<sup>1, 3, 5</sup>, severe fibroids<sup>16</sup> and sepsis are identified risk factors for postpartum haemorrhage, women with these conditions **must not** be given Syntometrine.

## Precautions

- Pre-existing pulmonary, cardiac or vascular disorders: Ischaemic heart disease, peripheral vascular disease or hypertension may be exacerbated<sup>15</sup>;

migraine; Raynaud's phenomenon (extreme vasoconstriction of peripheral blood vessels)<sup>7, 13</sup>; respiratory disease or chronic anaemia

- Pregnancy<sup>8</sup>- Category C; Not indicated<sup>15</sup>
- Breech presentations – ensure administration occurs after the birth is completed<sup>8</sup>
- Multiple births- ensure that administration only occurs after the birth of the last fetus<sup>8</sup> (e.g. second twin) otherwise excessive uterine contraction can result in death of the subsequent fetus(es).<sup>15</sup> If possibility of an undiagnosed second twin (e.g. no ultrasound in pregnancy), exercise caution before administering oxytocic.<sup>10</sup>

### Risk factors for PPH

An increased risk of PPH is associated with:

- **Demographics:** Age (>35)<sup>1</sup>; Ethnicity (hispanic<sup>2</sup>, asian); Obesity (BMI > 35)
- **Medical history:** Anaemia\*<sup>3</sup> (< 90g/L)<sup>5</sup>; Medical disorders (e.g. Von Willebrand's/ coagulopathies<sup>3</sup>, or diabetes<sup>1</sup>); Anticoagulant therapy<sup>9, 10</sup>
- **Previous obstetric history:** Past history of PPH<sup>12</sup>, retained placenta or MROP<sup>3</sup>; previous caesarean birth<sup>1, 3</sup>
- **Antenatal history:** Antepartum haemorrhage<sup>3</sup>; Chorioamnionitis<sup>1-3, 12</sup>; Over-distended uterus (polyhydramnios, multiple gestation\*<sup>15</sup>, macrosomia)<sup>1-3, 5, 12</sup>; Grand multiparity<sup>1, 3, 15</sup>: parity 5 or more; Primigravidity<sup>9</sup>; Placental abnormalities e.g. Placenta praevia, or suspected / proven abruptio placenta<sup>1, 3, 5</sup>; Tocolytic drugs<sup>3</sup> (e.g. Antepartum use of magnesium sulphate<sup>2</sup>, nifedipine, salbutamol); Fetal demise<sup>17</sup>
- **Labour:** Induction of labour<sup>1</sup> or augmentation<sup>2, 3, 12</sup>; Oxytocin exposure in labour (prolonged use or higher maximal dose)<sup>2</sup>; Malpresentation\* (other than cephalic)<sup>1</sup>; Prolonged labour<sup>3, 12</sup> (e.g. First stage ≥ 12hrs, Second stage ≥ 3hrs) or third stage<sup>2</sup>; Pyrexia in labour<sup>5</sup>; Rapid or in-coordinate labour<sup>12</sup>
- **Birth:** Caesarean section<sup>1, 12</sup> or operative /instrumental vaginal birth<sup>1, 2, 5, 12</sup>; Episiotomy<sup>2</sup>- mediolateral<sup>5</sup>; General anaesthetic<sup>2, 3</sup>; Retained placenta<sup>3</sup> or products<sup>2</sup>; Uterine inversion<sup>3</sup>, uterine rupture or cervical laceration<sup>1</sup>; Mismanaged third stage (massaging uterus causing partial separation of placenta)<sup>3</sup>

**Note:** PPH may occur when there are no risk factors identified.<sup>12, 15</sup>

\* See [Precautions](#) on previous page.

See also Restricted Area Guideline (Intranet only): Postpartum Haemorrhage

## References

1. Kramer MS, Berg C, Abenheim H, Dahhou M, Rouleau J, Mehrabadi A, et al. Incidence, risk factors, and temporal trends in severe postpartum hemorrhage. **American Journal of Obstetrics and Gynecology**. 2013;209(5):449.e1-.e7. Available from: <http://www.sciencedirect.com/science/article/pii/S0002937813007394>
2. Grotegut CA, Paglia MJ, Johnson LN, Thames B, James AH. Oxytocin exposure during labor among women with postpartum hemorrhage secondary to uterine atony. **Am J Obstet Gynecol**. 2011;204(1):56.e1-6. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3018152/>
3. Acosta L. Complications of the third stage of labour. In: Macdonald S, Magill-Cuerden J, editors. **Mayes' midwifery**. 14th ed. Sydney: Bailliere Tindall Elsevier; 2011.
4. Lewis G. Saving mothers lives: Reviewing maternal deaths to make motherhood safer: 2006-2008: The eighth report of the confidential enquiries into maternal deaths in the United Kingdom. **BJOG / CMACE**. 2011;118, Supp 1. Available from: <http://www.hqip.org.uk/assets/NCAPOP-Library/CMACE-Reports/6.-March-2011-Saving-Mothers-Lives-reviewing-maternal-deaths-to-make-motherhood-safer-2006-2008.pdf>
5. Mavrides E AS, Chandraran E, Collins P, Green L, Hunt BJ, Riris S, Thomson AJ on behalf of the Royal College of Obstetricians and Gynaecologists.,. Prevention and management of postpartum haemorrhage: Green-top guideline No. 52. **BJOG**. 2016;124:e106–e49. Available from: <https://obgyn.onlinelibrary.wiley.com/doi/epdf/10.1111/1471-0528.14178>
6. World Health Organization. WHO recommendations for the prevention and treatment of postpartum haemorrhage. Geneva, Switzerland: **WHO Press**; 2012. Available from: [http://apps.who.int/iris/bitstream/10665/75411/1/9789241548502\\_eng.pdf](http://apps.who.int/iris/bitstream/10665/75411/1/9789241548502_eng.pdf).
7. Begley C. Physiology and care during the third stage of labour. In: Marshall J, Raynor M, editors. **Myles textbook for midwives**. 16th ed. Edinburgh: Churchill Livingstone Elsevier; 2014. p. 395-416.
8. MIMS Australia. Syntometrine. **MIMS Online**. 2012. Available from: [www.mimsonline.com.au](http://www.mimsonline.com.au)
9. Kominiarek MA, Kilpatrick SJ. Postpartum Hemorrhage: A Recurring Pregnancy Complication. **Seminars in Perinatology**. 2007;31:159-66.
10. The Royal Australian and New Zealand College of Obstetricians and Gynaecologists. Provision of routine intrapartum care in the absence of pregnancy complications: C-Obs 31. **RANZCOG**. 2017. Available from: [https://www.ranzcog.edu.au/RANZCOG\\_SITE/media/RANZCOG-MEDIA/Women%27s%20Health/Statement%20and%20guidelines/Clinical-Obstetrics/Provision-of-routine-intrapartum-care-in-the-absence-of-pregnancy-complications-\(C-Obs-31\)review-July-2017.pdf?ext=.pdf](https://www.ranzcog.edu.au/RANZCOG_SITE/media/RANZCOG-MEDIA/Women%27s%20Health/Statement%20and%20guidelines/Clinical-Obstetrics/Provision-of-routine-intrapartum-care-in-the-absence-of-pregnancy-complications-(C-Obs-31)review-July-2017.pdf?ext=.pdf)
11. Begley CM, Gyte GM, Devane D, McGuire W, Weeks A. Active versus expectant management for women in the third stage of labour (Review). **Cochrane Database of Systematic Reviews**. 2015(3). Available from: <http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD007412.pub4/pdf>
12. Geller SE, Goudar SS, Adams MG, Naik VA, Patel A, Bellad MB, et al. Factors associated with acute postpartum hemorrhage in low-risk women delivering in rural India. **International Journal of Gynecology & Obstetrics**. 2008;101(1):94-9. Available from: <http://www.sciencedirect.com/science/article/pii/S0020729208000040>
13. Pairman S, Pincombe J, Thorogood C, Tracy S, editors. **Midwifery: Preparation for practice**. 3rd ed. Sydney: **Elsevier Australia**; 2015.
14. Jordan S. Pharmacology and the midwife. In: Macdonald S, Magill- Cuerden J, editors. **Mayes' midwifery**. 14th ed. Edinburgh: Bailliere Tindall Elsevier; 2011. p. 123-38.
15. World Health Organization. WHO guidelines for the management of postpartum haemorrhage and retained placenta. Geneva, Switzerland: **WHO Press**; 2009. Available from: [http://whqlibdoc.who.int/publications/2009/9789241598514\\_eng.pdf](http://whqlibdoc.who.int/publications/2009/9789241598514_eng.pdf).

16. Australian Medicines Handbook. Ergometrine. **AMH**. 2015. Available from: <https://amhonline-amh-net-au.kelibresources.health.wa.gov.au/chapters/chap-17/obstetric-drugs/oxytocic-drugs/ergometrine>
17. Oyelese Y, Scorza WE, Mastrolia R, et al. Postpartum Hemorrhage. **Obstetric and Gynecological Clinics of North America**. 2007;34(3):421-41.
18. Australian Medicines Handbook. Oxytocin. **AMH**. 2015. Available from: <https://amhonline-amh-net-au.kelibresources.health.wa.gov.au/chapters/chap-17/obstetric-drugs/oxytocic-drugs/oxytocin>

### Related legislation and policies (list and hyperlink)

**Legislation:** [Poisons Act 1964](#)

**Policy:** Department of Health WA: OD 0657/16 [WA Health Consent to Treatment Policy 2016](#)



### Related WNHS policies, procedures and guidelines

KEMH Clinical Guidelines:

- Obstetrics & Gynaecology: Labour & Birth: Second Stage; Labour: [Third Stage](#); [Retained Placenta](#); Medications During Labour & Birth: [Guidelines for Prescribing](#);
- Pharmacy: [Syntometrine](#); Medication Safety: Administration of Medications
- [Restricted Area Guidelines](#) (*Intranet only*): Primary Postpartum Haemorrhage (PPH)

### Useful resources (including related forms)

**Form:** MR810.04 Medication Administered for Labour & Birth

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