# Primary Postpartum Haemorrhage Guideline

## 1. Guiding principle

To minimise the risk of harm to women from primary post-partum haemorrhage (PPPH) in WA Country Health Service (WACHS) health care services.

## 2. Guideline

1. Management summary: See below - Primary Postpartum Haemorrhage Flow Chart.
2. All intrapartum women should have the PPH risk assessment completed on the rear of the partogram (MR72).
3. Active management of third stage of labour is recommended for all women: It reduces the chance of both PPPH and transfusion.
4. Active management does not preclude optimal timing of cord clamping for neonatal placental transfusion benefits:
5. Midwives can administer emergency drugs in management of PPH under the Midwife Initiated Medication Policy as long as the Obstetric doctor/s have been called to attend the PPH
6. Choice of uterotonic agent for active management is:
   - Oxytocin 10i.u. IMI for women without risk factors for PPPH
   - Oxytocin 5iu + Ergometrine 500microg in 1ml (Syntometrine 1 ampoule) IMI for women with risk factors for PPPH **and** no contraindication to ergometrine e.g. hypertension, cardiac or peripheral vascular disease, impaired liver or renal function.
7. Tranexamic acid (TXA) should be standard treatment under the 'thrombin' cause of PPH and should be administered as per the World Health: WHO recommendation on tranexamic acid for the treatment of postpartum haemorrhage:
   a. Fixed dose of 1g (100mg/ml) intravenously (IV) at 1ml per minute (i.e. over 10 mins), with a second dose if bleeding continues after 30 minutes or if bleeding re-starts within 24 hours of first dose.
   b. TXA is of most benefit when given early and within three hours of the birth
8. Site specific Massive Transfusion Protocol documents should be readily available for reference in all birth suites, operation theatres and emergency departments.

9. If urgent blood transfusion indicated: the order of preference for use is (i) crossmatched RBC (ii) uncrossmatched group specific RBC (if neither of these available) then (iii) uncrossmatched O negative RBC.
10. Early initiation of transfer to regional or tertiary centres should be considered during PPPH management in sites with limited or no access to an operating theatre or blood products.
11. All maternity unit birth suites should stock special perineal suture repair kits equipped to facilitate expeditious control of perineal wound haemorrhage.
12. Use MR72A WACHS Primary Postpartum Haemorrhage Record to record management of the PPH.
13. **Contraindications:**
    a. **Misoprostol:** allergy to misoprostol, severe asthma requiring steroid therapy, bleeding disorder or anticoagulant treatment, adrenal or hepatic failure.
    b. **Carboprost**: established pelvic sepsis. Use with caution in asthmatics. Medical expertise to manage acute respiratory distress must be available on site when carboprost is administered.
    c. **Tranexamic acid:** concurrent use of anticoagulants; Thrombosis during pregnancy; Suspected subarachnoid haemorrhage;. Significant renal impairment (eGFR less than 30mllmin I 1.73m'); Hypersensitivity; Infection at IV site and more than 3 hours after the birth.

## Primary Postpartum Haemorrhage Flow Chart

**CALL FOR HELP:**
- Press staff assist bell
- Notify duty obstetric doctor

**If >1000ml:**
- Alert Senior on call obstetric doctor
- Low threshold for transfer to theatre

**If >1500ml *or* haemodynamically unstable:**
- Activate massive transfusion protocol

**Nominate scribe**:
- Commence PPH Record (MR72A)
- Allocate a staff member to measure blood loss

**TREAT CAUSES**
**The 4 'Ts'**

**TONE (atony)**
- Vigorous and continuous fundal massage
- Insert IDC
- Bimanual compression
- Uterotonic drugs:
  - 40iu oxytocin in 500ml N/saline or CSL@125ml/hr.
    - ↑ to 250ml/hr if bleeding continues.
  - Syntometrine: 1 amp IMI if not already or contraindicated
  - Ergometrine: 250microg slow IVI or IMI.
  - Misoprostol 400microg sublingual or 1000microg PR
  - TXA 1g IVI over 10 mins

**PPH continues: Transfer to theatre.**

**Whilst waiting or no theatre access:**
- TXA 1g IVI over 10 mins
- **If medical support on site:** Carboprost if not contraindicated 250microcg IMI. (can repeat 15 minutely up to 8 doses)

**Whilst waiting transfer to Higher care:**:
- Consider uterine tamponade balloon e.g. Bakri

**RESUSCITATE:**
- Vigorous & continuous fundal massage
- IV lines x 2 16G
- Blood tests:
  - G & H +/- XMatch
  - FBC & Coags
- IVI fluid: CSL – 3 x volume blood loss
- Keep woman warm
- Record maternal observations:
  - $O_2$Sats, PR, BP, RR, blood loss, fundus, Conscious state

**TRAUMA**
- Examine PV carefully
- Clamp brisk bleeding vessels
- Repair wound
- Use surgical assistant
- Use adequate wound repair kit

**If extensive trauma:**
- Pack, apply pressure
- TXA 1g IVI over 10 mins

**Transfer to theatre**

**TISSUE**:
Placenta retained or incomplete:
**Transfer to theatre**

**THROMBIN (Coagulopathy)**
- Alert laboratory
- TXA 1g IVI over 10 mins
- Activate massive transfusion protocol

**Transfer to theatre**

**DURING TRANSFER: Alert receiving site most senior obstetrician and anaesthetist and laboratory technician. Crossmatch. Continue resuscitation, observations and fundal massage/bimanual compression/wound pressure as required**

## In theatre

**In theatre**

- Most senior available anaesthetist and obstetrician.
- Compression stockings.
- Examination under anaesthetic.
- Manual removal of retained products.
- Careful examination of genital tract.
- Repair trauma.
- Atonic uterus: Maintain fundal massage.
- Tranexamic acid 1gram IVI push over 10 min if not given prior.
- Antibiotic cover

**Still bleeding**

**If atonic:**

- Repeat ergometrine 250microg IVI (**Max total dose 1000 microg**)
- Carboprost 250microg IMI: may be repeated 15minutely for up to a total of 8 doses
- Insert uterine tamponade balloon. e.g. Bakri. Consider bedside ultrasound to monitor position and fill.

**Still bleeding**

- Repeat FBC, coagulation profile, additional crossmatch.
- Transfuse RBC/Fibrinogen concentrate/FFP and activate massive transfusion protocol
- **Follow algorithm below for fibrinogen concentrate use**.
- Follow haematologist advice for administration of cryoprecipitate and platelets if available.
- Arterial line if capability available

**Speedy resort to surgical intervention may be lifesaving:**

- Aortic pressure
- Laparotomy and B Lynch suture (leave legs in fin stirrups)
- Call for urgent general surgical assistance if available
- Compression sutures uterine arcade vessels
- If consultant surgical skill capacity: uterine artery +/- internal iliac ligation and/or hysterectomy
- **Call for tertiary advice**
- **Alert RFDS**
- **Arrange post op admission to ICU/HDU or transfer to regional or metro centre**

## Guideline for the use of Fibrinogen Concentrate during Obstetric Haemorrhage at WACHS sites

**GENERAL ADVICE:**

- The priority is **always to <u>treat the cause of bleeding</u>** – e.g. oxytocics, surgery, physical measures, balloon tamponade.
- Fibrinogen levels differ in pregnant women and administration should also be guided by blood loss volume
- Minimise use of colloids (they cause iatrogenic coagulopathy). Follow massive haemorrhage algorithm.
- Warm all fluids and blood products.
- Aim for temp > 36, iCa >1, Hb > 70g/L

### NO LABORATORY TEST AVAILABLE

**Decision to administer Fibrinogen Concentrate based on clinical criteria**

**The patient must be <u>still actively bleeding AND:</u>**

1. Estimated blood loss of greater than 2 litres

**OR**

2. Hb <70g/L

**OR**

3. High clinical suspicion of coagulopathy

e.g. Amniotic fluid embolism, severe abruption, HELLP syndrome

Give Tranexamic acid 1g (if not already given)

Give Fibrinogen Concentrate 3g

**Administration of Fibrinogen Concentrate**

- Reconstituted 1g in 50ml warm sterile water (use prepared kit in fluid warmer).
- Swirl gently and do not shake (to avoid foaming)
- Administer each 1g :
  - If life threatening: via syringe driver over 3 min (1000ml/hr)

### LABORATORY TESTS AVAILABLE

- Ideally the decision to use fibrinogen concentrate should be based on the results of laboratory tests, (fibrinogen concentration or fibtem A5)
- If ROTEM available use the KEMH ROTEM algorithm

Give Tranexamic acid 1g (if not already given)

**FIBRINOGEN DOSING GUIDE**

**Target FIBTEM A5 ≥ 12mm or Fibrinogen conc ≥ 2g/L**

| FIBTEM A5 | Fibrinogen Concentration | Cryoprecipitate* | Fib Conc |
|---|---|---|---|
| 6-10 mm | 1-2 g/L | 15 units | 3g |
| <6 mm | <1 g/L | 25 units | 5g |

## PPPH prophylaxis for women at high risk

- 16G intravenous cannula; Send blood for Full Blood Count; Blood Group & Hold.
- Syntometrine (unless contraindicated) for active management 3rd stage.
- Consider oxytocin 5i.u IVI slow bolus for very obese women where there is doubt that an intramuscular injection can be achieved with available needle.
- Commence post-partum premixed infusion of 40i.u. oxytocin in 500ml N/saline or CSL at 125ml/hr following delivery of placenta.
- **If placenta retained, commence infusion whilst awaiting theatre access.**

## Perineal repair suture kits

In addition to standard perineal suture kits, additional equipment should be readily available in all birth suites to assist with expeditious repair of vaginal and perineal wounds associated with excessive haemorrhage. Available instrumentation should include:

Sims speculums  Vaginal wall retractors  Small artery forceps  Sponge holders  Allis forceps

## Retained Placenta

Manual removal of a retained placenta is done with adequate regional or general anaesthesia. Prompt transfer to theatre should always be considered.

## Balloon Tamponade:

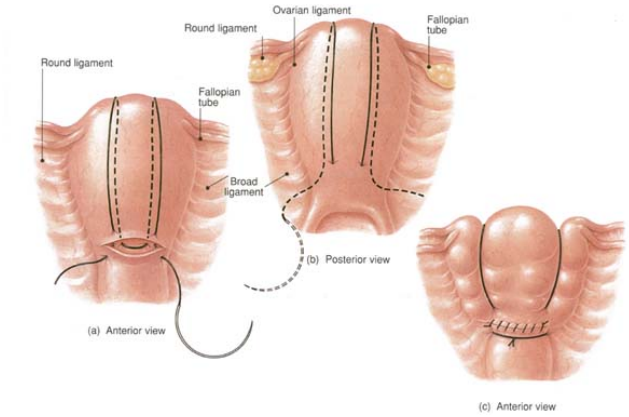
A Bakri or alternate balloon catheter can be inserted into the uterine cavity through the cervix (or a uterine incision) to tamponade the placental bed. The balloon is usually placed under direct vision; experienced practitioners may be able to effect digital placement. The balloon is inflated with saline, using a 50mL syringe until resistance is encountered, or from a 500mL bag using gravity feed and a giving set. Bedside ultrasound can be useful to guide /check placement and fluid infusion. A vaginal pack may help keep a balloon catheter in the uterine cavity, particularly if a woman has been in labour. If used in conjunction with a B Lynch suture, insert & inflate the balloon **after** placement and tying off the uterine compression suture.

Removal of a balloon catheter should be done at a hospital well-resourced to manage recurrent haemorrhage.

**B-Lynch Suture**

Use a long, absorbable suture on a large needle*. Assistant must compress uterus whilst knot is secured.

*e.g. Kat Eyed Colts Tension 100 MM – Reference TM 1330, 1 POLYSORB L115




## 3. Definitions

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|---|---|
| **Primary Post-Partum Haemorrhage** | Maternal blood loss in excess of 500ml within 24 hours of childbirth |

## 4. Roles and Responsibilities

Maternity clinicians are to perform the assessment and procedures in line with their skills, training, competence and scope of practice.

At each WACHS maternity care site, all major PPPH and peripartum blood transfusion events should be reviewed by a senior midwife and obstetric clinician. Documentation in Datix Clinical Incident Management System may be indicated.

## 5. Compliance

Failure to comply with this policy document may constitute a breach of the WA Health Code of Conduct (Code). The Code is part of the Employment Policy Framework issued pursuant to section 26 of the *Health Services Act 2016* (WA) and is binding on all WACHS staff which for this purpose includes trainees, students, volunteers, researchers, contractors for service (including all visiting health professionals and agency staff) and persons delivering training or education within WACHS.

WACHS staff are reminded that compliance with all policies is mandatory.

## 6. Evaluation

Monitoring of compliance with this document is to be carried out by Maternity Unit Managers at least annually using information generated by the WACHS maternity unit PPPH reports from the STORK perinatal database and the WACHS clinical incident monitoring system. Individual clinicians or unit manager may choose to provide direct feedback regarding the guideline and implementation to the WACHS Obstetric and Gynaecology Clinical Advisory and Patient Safety Group.

## 7. Standards

National Safety and Quality Healthcare Standards 1.10c, 1.16, 1.27a, 6.11, 8.8

## 8. King Edward Memorial Hospital Reference Documents

Labour: Third Stage
Oxytocin Prophylactic and Therapeutic Regimens
Misoprostol Administration for Primary PPH in FBC
Retained Placenta
Management of Primary Postpartum Haemorrhage for Aetiology, Risk Factors, References. Some information not relevant to WACHS settings:

- Use WACHS PPPH guideline flow chart
- Rotem analysis is not available in WACHS PathWest laboratories.

## 9. Other Reference Documents

WOMAN Trial Collaborators. Effect of early tranexamic acid administration on mortality, hysterectomy, and other morbidities in women with post-partum haemorrhage (WOMAN): an international, randomised, double-blind, placebo-controlled trial. Lancet 2017; 389: 2105–16
http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736(17)30638-4.pdf

B-Lynch, C., Coker, A., Lawal, A. H., Abu, J. and Cowen, M. J. (1997), The B-Lynch surgical technique for the control of massive postpartum haemorrhage: an alternative to hysterectomy? Five cases reported. BJOG: An International Journal of Obstetrics & Gynaecology, 104: 372–375. doi:10.1111/j.1471-0528.1997.tb11471.x
The B-Lynch surgical technique for the control of massive postpartum haemorrhage: an alternative to hysterectomy? Five cases reported - B-Lynch - 1997 - BJOG: An International Journal of Obstetrics & Gynaecology - Wiley Online Library

Tang, O.S. et al, Misoprostol: Pharmacokinetic profiles, effects on the uterus and side effects, International Journal of Gynaecology and Obstetrics (2007) 99, s160-s167

## 10. Related Forms

MR72A WACHS Primary Post-Partum Haemorrhage Record

MR72 WACHS Partogram Form

## 11. Related Policy Documents

WACHS Blood Management Policy
WACHS King Edward Memorial Hospital (KEMH) Resources - Endorsed for Use in Clinical Practice Policy
WACHS Midwife Initiated Medication Policy

## 12. Policy Framework

Clinical Services Planning and Programs

**This document can be made available in alternative formats on request for a person with a disability**

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