POST PARTUM HAEMORRHAGE – PREVENTION AND MANAGEMENT

This LOP is developed to guide clinical practice at the Royal Hospital for Women. Individual patient circumstances may mean that practice diverges from this LOP.

1. AIM
   • Early recognition and prompt appropriate intervention to minimize the impact of post partum haemorrhage (PPH)

2. PATIENT
   • A woman whose blood loss at or after childbirth is measured or estimated at ≥500mls, or who experiences haemodynamic compromise as a result of post partum bleeding

3. STAFF
   • Registered Midwives
   • Registered Nurses
   • Medical Staff
   • Student Midwives
   • Anaesthetic Medical Staff

4. EQUIPMENT
   • 16 gauge intravenous (IV) cannula
   • Blood tubes
   • IV Starter Kit
   • Gloves
   • Sphygmomanometer
   • Personal protective equipment (PPE)
   • Measuring equipment (Scales, Jug, Kidney Dish)
   • Indwelling urinary catheter (IDC)
   • PPH Box

5. CLINICAL PRACTICE
   Prevention of PPH
   • Offer and recommend active management of third stage of labour to all women antenatally
   • Consider additional prophylaxis for prevention of PPH for high risk women

   Treatment of PPH
   • Call for help
   • Activate PACE call (Patient with acute condition for escalation) according to criteria
   • Perform stepwise management of PPH as per flowchart (Appendix). Pay attention to underlying cause of PPH and check placenta and membranes are complete
   • Replace volume: To restore circulating (intravascular) volume, infuse crystalloids Hartmann’s solution in a volume at least three times the measured volume lost. Consult anaesthetic team if more than two litres is required.
   • Consider treatment with uterotonic medications (Table 1)
   • Keep the woman warm and administer high flow oxygen
2. LOCAL OPERATING PROCEDURE

CLINICAL POLICIES, PROCEDURES & GUIDELINES

Approved by Quality & Patient Safety Committee
December 2012

POST PARTUM HAEMORRHAGE – PREVENTION AND MANAGEMENT  cont’d

Management of ongoing bleeding
• Inform anaesthetic team, consultant obstetrician and request further assistance with resuscitation
  (PACE Tier 2 / Code Blue / Senior Anaesthetist)
• Assess haemoglobin, coagulation status and inform operating theatres
• Consider 4th line treatment as per Table 1
• Consider initiating massive transfusion protocol
• Replace missing clotting factors and blood products
• Consider where blood loss continues or woman is haemodynamically unstable :
  o Uterine inversion
  o Uterine rupture
  o Broad ligament haematoma

Postnatally
• Document estimated blood loss and treatments used for PPH
• Debrief patient / family members and staff

6. DOCUMENTATION
• Integrated Clinical Notes
• ObstetriX
• PACE Notification
• Medication Chart
• IV Fluid Chart
• Fluid Balance Chart

7. EDUCATIONAL NOTES
• Severe PPH is defined as blood loss of 1000 ml or more after childbirth
• Blood loss of >=2000ml is a significant risk for coagulopathy, and escalation is recommended when
  blood loss is more than this or if there is haemodynamic compromise
• Primary or early PPH is within 24 hours of birth
• Secondary or delayed PPH is 24 hours to 6 weeks postpartum
• Primary Prophylaxis – Active management of third stage. Routine prophylactic oxytocin administered
  after delivery of the anterior shoulder reduces the risk of PPH by more than 40% and is the most
  effective means of preventing PPH from uterine atony and is not associated with an increased risk of
  retained placenta. Active management of third stage involves : Oxytocin, cord clamping / cutting and
  controlled cord traction
• Consider the underlying cause :
  o TONE – 70% of PPHs are caused by abnormalities of uterine contraction (atonic)
  o TISSUE – 10% of PPHs are caused because placental or membrane tissue is retained
  o TRAUMA – Genital tract trauma is responsible for 20% of PPHs
  o THROMBIN – Coagulation abnormalities. Abnormalities of coagulation may be present prior
    to or during pregnancy or may reflect the severity of blood loss during PPH
• PPH boxes are located in Delivery Suite, Birth Center, Operating Theatre and Postnatal Ward
• Uterine packing may be undertaken by the use of rolled gauze or intra-uterine cavity balloon
• Misoprostol, a prostaglandin E1 analogue, is not currently recommended for routine prevention and
  control of PPH. Its use is unlicenced, however it may be used as an adjunct to other medications in
  cases of severe PPH. Onset and duration of action are written in Table 1.
• Tranexamic acid (TA) (loading dose 4 g over 1 hour, then infusion of 1 g/hour over 6 hours) was
  compared to placebo in one small randomised trial of treatment of PPH >800ml after vaginal birth
  (n=144). Blood loss was significantly lower in the TA group than in the control group (median, 173 mL)
  vs (221 mL; (P = 0.041). In the TA group, bleeding duration was shorter and progression to severe PPH
  and Red Blood Cell (RBC) transfusion was less frequent than in controls (P < 0.03). A meta analysis of
  studies of surgical patients included 129 trials, totalling 10,488 patients, carried out between 1972 and
  2011 showed that tranexamic acid reduced the probability of receiving a blood transfusion by a third (risk
  ratio 0.62, 95% confidence interval 0.58 to 0.65; P<0.001).
POST PARTUM HAEMORRHAGE – PREVENTION AND MANAGEMENT  cont’d

8. RELATED POLICIES / PROCEDURES / CLINICAL PRACTICE LOP

- Massive Transfusion in Obstetrics and Gynaecology (pink code)
- Third Stage of Labour management
- Blood Products Refusal in Pregnancy
- PACE Management of Deteriorating Adult Inpatient
- NSW Health Policy Directive PD2007_040 Open Disclosure
- NSW Health Policy Directive PD2007_061 Incident Management
- Balloon placement for uterine tamponade
- Perineal repair
- Labelling of injectable medicines fluids and lines
- Maternal Collapse
- Escalation for birthing services

9. REFERENCES

5. Queensland Maternity and Neonatal Clinical Guidelines Program. 2009 Primary postpartum haemorrhage MN09.1-V2-R11

REVISION & APPROVAL HISTORY
Amendment to dosages in appendix May 2014
Reviewed and endorsed Maternity Services LOPs group December 2012
Reviewed Obstetric Clinical Guidelines Group Sept 2010 – Approved Quality & Patient Safety Committee 21/10/10
Reviewed July 2007 – Approved Clinical Performance & Quality Committee August 2007
Endorsed Maternity Services Clinical Committee 10/12/02 – Approved Quality Council 16/12/02
FOR REVIEW : DECEMBER 2017
<table>
<thead>
<tr>
<th>TABLE 1 - UTERINE CONTRACTION AGENTS</th>
<th>CONTRAINDICATIONS / CAUTIONS</th>
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<tr>
<td><strong>1st Line Treatment</strong></td>
<td><strong>Ergometrine</strong>&lt;br&gt;Give 250 microgram either intra muscular injection (IM) or slow IV infusion and give antiemetic&lt;br&gt;Usual dose is 250microgram, however IV: 25-50 microgram bolus can be given and can be repeated after 2-3 minutes.</td>
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| **2nd Line Treatment** | **Oxytocin Bolus** 5-10units IM or IV<br>**Oxytocin Infusion**<br>Add 40 units to 1 litre of Normal Saline (Sodium Chloride 0.9%) and run at 250 mls/hour via infusion pump | Contraindications : hypersensitivity to drug<br>Onset of action IV is < 1 minute, lasts < 30 minutes. IM onset of action within 2-4 minutes, lasts 30-60 minutes |

| **3rd Line Treatment** | **Misoprostol** 800micrograms rectally or sublingually | Contraindications : known sensitivity to prostaglandins and should be used with caution in women with asthma. Side effects include diarrhoea and abdominal pain, shivering and fever<br>Onset of action : buccal or sublingual 11 minutes, and lasts 3 hours. Per rectum has slow uptake (100minutes) but prolonged duration (4 hours). Off label use |

| **4th Line Treatment** | **Prostaglandin F2 Alpha**<br>- Ensure an IV line, cardiac monitoring and oxygen therapy are in place before administration of Prostaglandin F2 Alpha<br>- An anaesthetist should be in attendance<br>- Dilute 5mg (1ml) of Prostaglandin F2 Alpha; with 9 ml of normal saline. Equals 10mls volume<br>- Discard 4ml to leave 6ml = 3mg or 500 microgram per 1ml<br>- Give 2 ml or maximum 1 mg at a time by a medical officer injecting into the uterine myometrium with the 22G Spinal Needle (BD) | Use with caution in women with asthma, hypertension, active cardiac, renal or hepatic disease and hypersensitivity. Side effects include nausea, bronchia spasm, vomiting, diarrhoea, headache, flushing, pyrexia, uterine rupture and cardiac arrest. Off label use |

| **5th Line Treatment** | **Tranexamic acid**<br>Loading dose 1g over 1 hour, then infusion of 1g 30 minutes later if required, via infusion pump | Contraindications: Active thromboembolism including Deep Vein Thromboses, Pulmonary Embolus, cerebral thrombosis; thrombosis risk, history including family (unless anticoagulated); acquired colour vision disturbance; subarachnoid haemorrhage. Precaution in renal impairment |
RISK FACTORS FOR PPH REQUIRING ADDITIONAL PROPHYLAXIS:

- **EITHER ERGOMETRINE (IF NO CONTRAINDICATIONS) 250MCG IMI/IV**
- **AND/OR OXYTOCIN INFUSION (40 UNITS OXYTOCIN [SYNTOCINON] IN 1000MLS SODIUM CHLORIDE 0.9% @ 250MLS/HR)**
SUSPECTED OR PROVEN PLACENTAL ABRUPTION
MULTIPLE PREGNANCY
RETAINED PLACENTA >30 MINUTES
PRE ECLAMPSIA/GESTATIONAL HYPERTENSION
BIRTH BY EMERGENCY CAESARIAN SECTION
PREVIOUS PPH
OPERATIVE VAGINAL BIRTH/SHOULDER DYSTOCIA
PROLONGED LABOUR>12 HOURS
SECOND STAGE OF LABOUR>2 HOURS
VON WILLEBRAND’S DISEASE
ANAEMIA (<9 g/L)
GRAND MULTIPARITY

OTHER RISK FACTORS (CONSIDER ADDITIONAL PROPHYLAXIS, PARTICULARLY IN THE CASE OF MULTIPLE RISK FACTORS)

ASIAN ETHNICITY
OBESITY (BMI>30)
INDUCTION/AUGMENTATION OF LABOUR
BABY WEIGHT>4 KG
PYREXIA IN LABOUR
AGE >40 YEARS
PRECIPITATE LABOUR
MULTIPLE OR LARGE FIBROIDS
POLYHYDRAMNIOS