Royal Cornwall Hospitals
NHS Trust

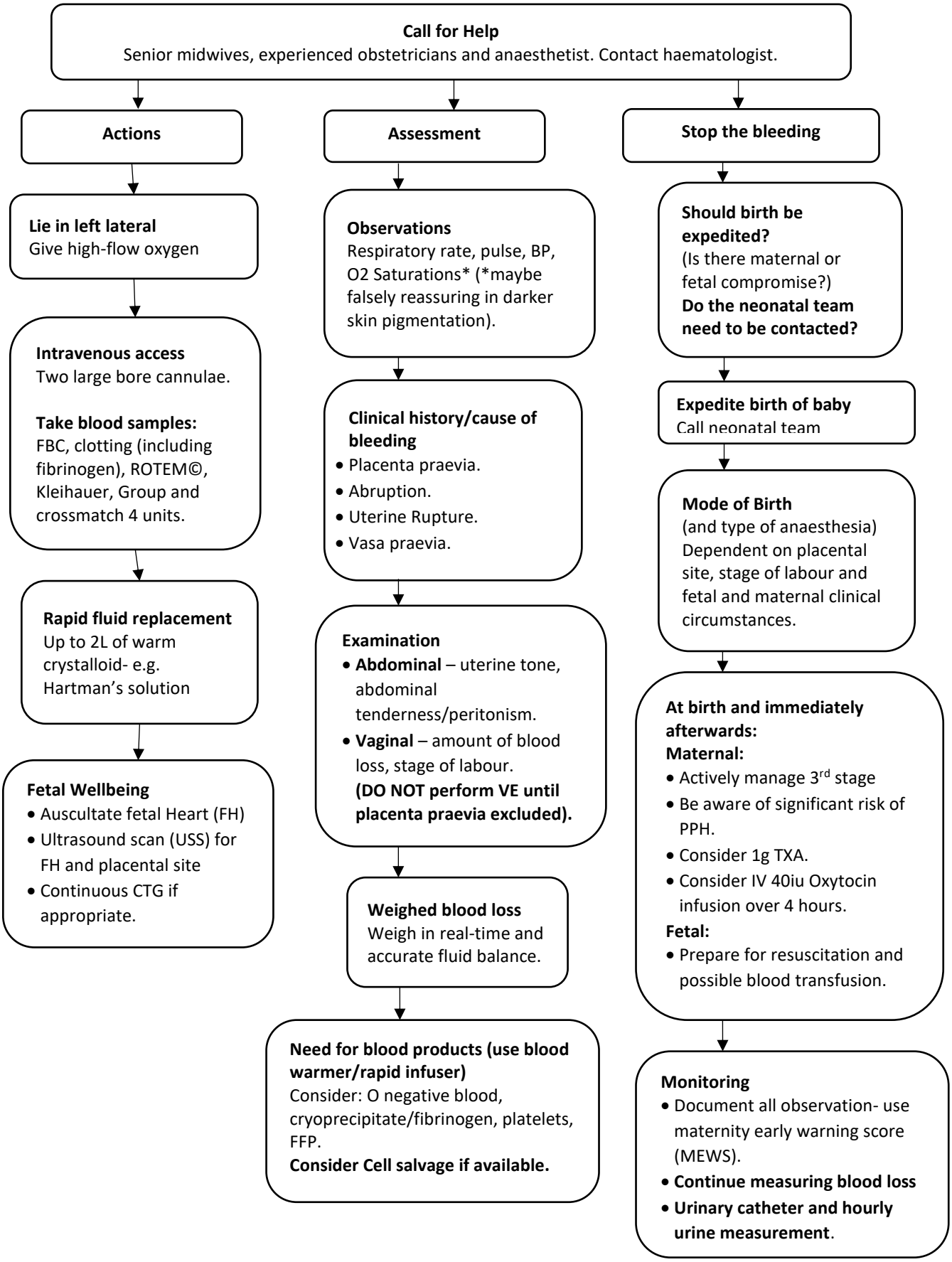
Obstetric Haemorrhage Clinical Guideline

V4.1

December 2024

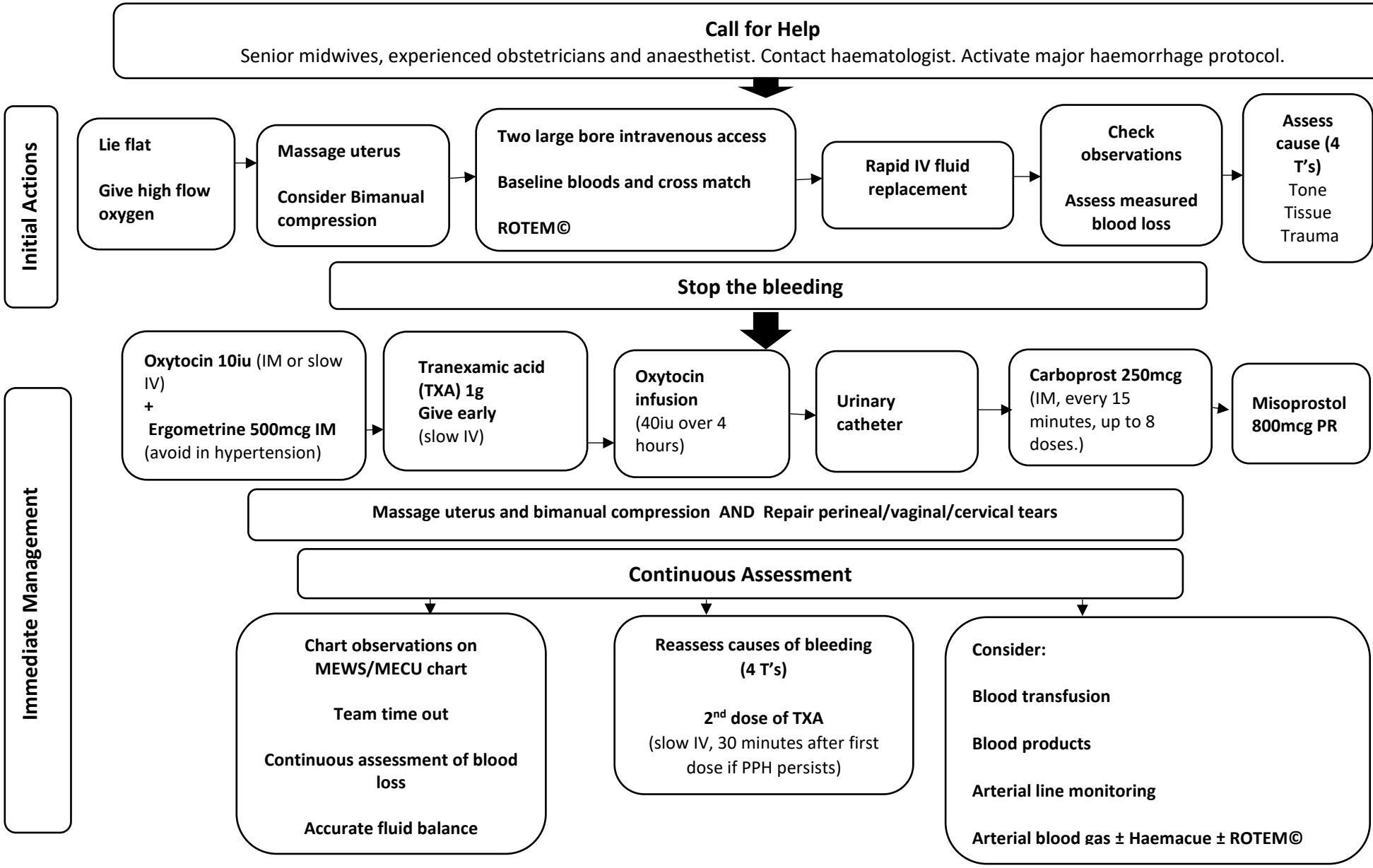
Summary

Algorithm for initial management of major antenatal haemorrhage APH (obstetric unit)
(Blood loss of >1000ml or signs of clinical shock)



Immediate management of major postpartum haemorrhage (PPH)

(Blood loss of >1000ml or signs of clinical shock)



1. Aim/Purpose of this Guideline

1.1. This document guides obstetricians, obstetric anaesthetists, midwives, nurses, and maternity support workers (MSW) on the recognition and management of:

- Antepartum Haemorrhage.
- Postpartum Haemorrhage.
- Massive Obstetric Haemorrhage (MOH) at any time relating to pregnancy.

1.2. This guideline should be used in conjunction with the following guidelines:

- Severely Ill Obstetric Woman Early Recognition and Management Clinical Guideline (cornwall.nhs.uk)
- Anaemia: Diagnosis and Treatment throughout Pregnancy, Labour and Post-Partum Period Clinical Guideline (cornwall.nhs.uk)
- Anti-D Immunoglobulin for the Prevention of Haemolytic Disease of the Fetus and Newborn Clinical Guideline
- Intraoperative Cell Salvage Clinical Guideline
- Modified Early Obstetric Warning Score (MEOWS) in Detecting the Seriously Ill and Deteriorating Woman Clinical Guideline (cornwall.nhs.uk)
- Maternal Collapse In Pregnancy And Puerperium, Clinical Guideline (cornwall.nhs.uk)
- RetainedPlacentaDiagnosisAndManagementClinicalGuideline.pdf (cornwall.nhs.uk)
- Declining Blood Products in Maternity Clinical Guideline
- Maternal Transfer by Ambulance Clinical Guideline (cornwall.nhs.uk)

1.3. This guideline makes recommendations for women and people who are pregnant. For simplicity of language the guideline uses the term women throughout, but this should be taken to also include people who do not identify as women but who are pregnant, in labour and in the postnatal period. When discussing with a person who does not identify as a woman, please ask them their preferred pronouns and then ensure this is clearly documented in their notes to inform all health care professionals.

1.4. This version supersedes any previous versions of this document.

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2. The Guidance

2.1. Definitions of Obstetric Haemorrhage

2.1.1. Minor Antepartum Haemorrhage

Episode of bleeding of less than 500mls from the genital tract during pregnancy (after 24 weeks gestation) and prior to birth of the baby.

2.1.2. Major Antepartum Haemorrhage

Episode of bleeding of more than 500mls from the genital tract during pregnancy (after 24 weeks gestation) and prior to birth of the baby or when clinical signs are suggestive of significant concealed bleeding.

2.1.3. Minor Primary Postpartum Haemorrhage

The loss of 500-1000mls of blood from the genital tract within 24 hours of the birth of a baby.

2.1.4. Major Primary Postpartum Haemorrhage

The loss of over 1000mls of blood from the genital tract within 24 hours of the birth of a baby.

2.1.5. Massive Primary Postpartum Haemorrhage

Blood loss>2000ml or rate of blood loss of 150ml/min, or 50% blood volume loss within 3hrs. It may result in a decrease in haemoglobin (Hb) >40g/l, or an acute transfusion requirement of >4 units. An MOH that triggers the ‘Massive Obstetric Haemorrhage’ protocol is defined as blood loss that is ‘uncontrolled’ and ‘on-going’ with a rate of blood loss of 150mls or more per minute or >2L.

2.1.6. Secondary Postpartum Haemorrhage

Abnormal or excessive bleeding from the birth canal between 24 hours and up to 12 weeks post-delivery.

2.2. Maternal weight and Volume

Maternal weight must be considered in estimating the size of the blood loss and its consequences:

Maternal weight	Estimated total blood volume (ml)	15% blood loss (ml)	30% blood loss (ml)	40% blood loss (ml)
50kg	5000	750	1500	2000
60kg	6000	900	1800	2400
70kg	7000	1050	2100	2800
80kg	8000	1200	2400	3200

2.3. Blood Loss Estimation and Recording

Blood loss estimation can be difficult, and the gold standard is to measure blood loss in receivers and to weigh soiled swabs and sheets. All staff have training in blood estimation and weighing on PROMPT training days. All loss should be documented, and a fluid balance chart used for Major APH and PPH.

2.4. The Guidance within the Obstetric-Led Unit:

Antepartum Haemorrhage (APH)

2.4.1. Causes

Severe APH occurs in 3-5% of pregnancies. The main differential diagnoses to consider in all APHs are:

- Placenta praevia.
- Placental abruption.
- Vasa praevia.
- Conditions of cervix, vagina and vulva including malignancies and benign lesions such as polyps and cervical ectropion.
- Mild trauma caused by e.g., sexual intercourse and cervical sweeps.

2.4.2. Risk factors for APH:

- **General**: Increased maternal age and parity, multiple pregnancy, smoking and cocaine abuse.

- **Placenta Praevia**: previous caesarean section (10-15%), Termination of pregnancy (TOP) and dilation and curettage (D&C), Manual removal of placenta (MROP) and myomectomy/ transcervical resection of the endometrium (TCRE).

- **Placental Abruption**: pregnancy Induced Hypertension/preeclampsia toxemia (PET), fetal growth restriction (FGR), preterm rupture of membranes, fibroids, previous abruption, external trauma, substance abuse, polyhydramnios, low BMI, assisted reproductive techniques and maternal thrombophilia.

2.4.3. Minor APH

A minor APH will usually present as mild bleeding from the genital tract with no other clinical symptoms. Management will be dependent upon the size and cause of the APH.

2.4.3.1. On presentation the midwife should take a full medical, social and obstetric history, documenting risk factors. A modified early obstetric warning score (MEOWS) chart should commenced and fetal movements and CTG performed after 28 weeks (earlier only at Consultant Obstetrician's request).

2.4.3.2. All women should have obstetric review with no decision regarding admission or discharge to home made without the involvement of an experienced obstetrician.

2.4.3.3. Review the patient within 30 minutes of admission to delivery Suite. If the obstetric team are unavailable, it must be clearly documented in the notes why and when a review is expected. The coordinator should review the patient to assess the urgency. If a Dr is required urgently, immediate escalation to the Obstetric Consultant on call should take place. Until the review happens the coordinator should be kept up to date with any changes.

2.4.3.4. Obstetric review should include the following:

- History and risk assessment.
- Review scan for placenta site.
- Examination to include speculum for lower genital tract lesion (if not placenta praevia).
- Review observations and CTG.
- Secure IV access (unless spotting only) and consider IV fluids.
- Take blood for FBC and G&S (and Kleihauer) if rhesus negative).

2.4.3.5. Women presenting with spotting who are no longer bleeding and where placenta praevia has been excluded can go home after a reassuring initial clinical assessment. All women with APH heavier than spotting and women with ongoing bleeding should remain in hospital at least until the bleeding has stopped, usually for 24 hours.

2.4.3.6. Anti-D Ig should be given to non-sensitised RhD negative women. In the event of recurrent vaginal bleeding after 20+0 weeks of gestation refer to the Anti D Clinical Guideline.

2.4.3.7. If there has been an APH heavier than spotting, growth scans for 28/32/36/40 weeks should be requested on MAXIMS.

2.4.4. Additional management considerations for Major APH

- A senior obstetrician, anaesthetist and labour ward co-ordinator must be informed must be informed of the case and the woman managed in an appropriate environment (i.e. on delivery suite).
- Kleihauer test should be performed in rhesus D-negative women.
- For administration of anti-D refer to separate guideline: Anti-D Immunoglobulin for the Prevention of Haemolytic Disease of the Fetus and Newborn Clinical Guideline.
- In addition to securing IV access and checking full blood count and group and save, coagulation studies including fibrinogen and Rotem must be checked given the higher risk of coagulopathy with major APH.
- In the case of suspected placental abruption, assess for pre-eclampsia or fetal growth restriction that may co-exist and further compromise maternal / fetal well-being.
- From 26 weeks CTG monitoring should continue until bleeding or significant pain relating to abruption stops. The decision for continuous monitoring at lower gestations should be made by a senior obstetrician.
- Consider preterm optimisation, see Preterm Birth, Optimisation and Delivery Clinical Guideline.
- Consider transfer to a tertiary unit if mother is stable and <27 weeks gestation, <28 weeks multiples or <800g Estimated Fetal Weight.
- Tocolysis should be avoided in a massive APH or if there is evidence of fetal compromise.
- If the mother remains unstable despite aggressive resuscitation, delivery may be required to stop the bleeding.

- Maternal resuscitation, with intravenous fluids and blood products, and correction of coagulopathy, must be ongoing before and during efforts to expedite birth.

- In cases of intra-uterine death, vaginal birth is usually appropriate but note that intra-uterine death indicates a higher risk of coagulopathy and PPH in the mother. An emergency caesarean section may be necessary for obstetric reasons e.g., transverse lie or if unable to correct maternal shock.

- Anticipate a higher risk of PPH and prepare accordingly.

- Remember venous thromboprophylaxis after bleeding has completely settled.

- For bleeds unrelated to placenta praevia, a speculum examination must be performed before discharge (if not performed before in this pregnancy) to exclude a nonuterine genital tract cause for bleeding (e.g., cervical cancer).

2.5. Postpartum Haemorrhage (PPH)

2.5.1. Risk factors

At booking

- Previous PPH or retained placenta.

- Previous LSCS.

- BMI >35.

- Existing uterine anomalies.

- Age >40.

- Pre-existing bleeding disorders.

2.5.2. Antenatal

- APH.

- Over distension of the uterus (multiple pregnancy, macrosomia, polyhydramnios).

- **Placenta Praevia, Vasa Praevia and Abnormally Invasive Placenta:** If a woman presents with bleeding and known to have any of these conditions please refer to: Placenta Praevia, Vasa Praevia and Abnormally Invasive Placenta Clinical Guideline (cornwall.nhs.uk).

- Hypertension.

- Therapeutic anticoagulants.

2.5.3. Intrapartum Risk Factors

- Induction.
- Augmentation.
- Prolonged 1st and 2nd stage and retained placenta.
- Precipitate labour.
- Pyrexia in labour.
- Operative birth or caesarean section.
- Retained placenta.
- Lower genital tract trauma.

2.5.4. Actions in the presence of risk factors

- Document any identified risks clearly on the electronic and handheld notes and offer a referral for an appointment with a Consultant Obstetrician during pregnancy.
- An individualised care plan should be made following discussion with the woman including recommendation for an actively managed 3rd stage of labour.
- Screen for and correct any anaemia.
- Early IV access in labour with full blood count, group and save.
- Clear communication with obstetric and anaesthetic staff when a woman presents in labour with risk factors for PPH.
- Where a woman is identified to be at high risk of PPH, the PPH kit and trolley should be brought into or outside of the delivery room/theatre during the second stage of labour.
- Active management of third stage and consider Oxytocin infusion.

2.5.5. Roles and Responsibilities of Staff Groups in the Labour Setting Including Theatres (NEW 2024):

2.5.5.1 Prescribing of oxytocin infusions should be carried out by a doctor or prescribing healthcare professional. The prescription should be accurate, taking into account factors such as the patient's weight, medical history, and condition to avoid complications or adverse reactions.

2.5.5.2 Preparation of oxytocin infusions should **NOT** be made in advance.

2.5.5.3 Oxytocin should be prepared by registered professionals who ensure the medication is mixed correctly and safely. Proper labelling and storage of the oxytocin solution are also essential to prevent errors in administration.

2.5.5.4 Administration of oxytocin infusions should be made by registered professionals, and they should ensure monitoring the patient's response to the medication, assessing vital signs, and adjusting the dosage as needed.

2.5.5.5 Disposal of oxytocin infusions must be handled appropriately to prevent contamination or environmental harm. The administration line should be disposed into a sharps bin and the bag disposed of in the yellow clinical waste bag.

2.5.6. Management of Primary PPH

2.5.6.1. Primary PPH involving an estimated blood loss of 500– 1000 ml (and in the absence of clinical signs of shock) should prompt basic measures (close monitoring, intravenous access, full blood count, group and screen) to facilitate resuscitation should it become necessary.

2.5.5.6 In the case of blood loss approaching or greater than 1000ml:

2.5.5.7 A 2222 call should be made, and an obstetric emergency team should be requested.

- Lie the woman flat.
- Administer facial oxygen with non rebreathe mask and monitor oxygen saturation levels.
- Continually assess Airway, Breathing, Circulation.
- Massage the uterus and commence bimanual compression. This is tiring- change clinician regularly to maintain effectiveness.
- Assess cause of blood loss remembering the four T’s:
  - Tone- palpate uterus and use uterotonics.
  - Tissue- examine placenta and membranes and consider theatre for examination under anaesthetic (EUA). Remember that clot alone in the cavity may impair contractility.
  - Trauma- systematically examine the lower genital tract and repair a tear. EUA may be required to identify and access a cervical or forniceal tear.

- Thrombin- assess for bruising, puncture site ooze and evaluate repeated blood results.

2.5.6.2. Consider rare causes such as uterine rupture or inversion, broad ligament haematoma and extra genital bleeding (e.g., splenic, liver capsule or adrenal).

- IV access with one (consider two) wide bore cannula.
- Empty the bladder inserting a size 12ch Foleys Indwelling Catheter.
- Take blood for FBC and Group and Save, Cross match and clotting studies including ROTEM if large PPH or maternal compromise.
- Intravenous fluids Hartmanns 1000ml stat.
- Administer Uterotonic Drugs:
  - Repeat bolus oxytocic: Syntometrine 500 micrograms/5 IU or Oxytocin 10 IU/ml for injection IM if hypertensive or blood pressure not known.
  - Oxytocin 40/IU in N/Saline 0.9% 500ml @125ml/hr IV.
  - Misoprostol 800mcg either PR or SL.
  - Haemabate 250mcg IM at 15-minute intervals up to a maximum of 8 doses (caution asthma).
- Tranexamic acid 1g IV (not a uterotonic) Early decision for EUA if bleeding on going and inform consultant obstetrician. See MOH section for surgical options.
- Remember venous thromboprophylaxis as an inpatient after bleeding has completely settled.
- Consider blood loss in relation to woman's weight. (MBRRACE).

2.5.7. Secondary PPH

Management for a secondary PPH should follow the same principles of management as a primary PPH. Secondary PPH is usually due to retained products and/or infection and therefore the woman should be screened and treated for infection.

2.5.8. Documentation

- Commence a full MEOWS Commence full MEOWS assessment including fluid balance, initially at 5-minute intervals then as per MEOWS score.

- Complete documentation, PPH proforma for blood loss over 1000ml (vaginal or caesarean section delivery) and arrange debrief for woman, her family and staff involved.

- Datix to Patient Safety.

2.5.9. Postnatal Care following a PPH

- Transfer to postnatal ward only when woman is stable, and transfer is agreed with the obstetric team.

- Transfer to the postnatal ward with an oxytocin infusion can occur with agreement from the obstetric team. Transfer should be delayed until any infusion of bloods products has been completed.

- Continue regular MEOWS observations, as per trigger score, on the postnatal ward and these should be repeated immediately if the woman reports bleeding or being unwell. These should be documented in the maternal notes. If observations are abnormal the obstetric team should be asked to review the woman urgently.

- For blood loss over 1000ml a fluid balance chart should be continued for a minimum of 24 hours post-delivery unless stopped by senior obstetrician. This must be documented on the fluid balance chart and signded. If output is abnormal the obstetric team should be asked to review the woman urgently.

- Women should be informed about signs of bleeding, expected amount of PV bleeding in the postnatal period and when they should inform the midwife of concerns.

- Women should have an FBC on day 2 or prior to discharge if discharge before day 2. Oral or intravenous iron should be prescribed as directed by the Anaemia: Diagnosis and Treatment throughout Pregnancy, Labour and Post-Partum Period Clinical Guideline (cornwall.nhs.uk).

- Women should be given an opportunity to discuss their labour and birth and events around their haemorrhage. Implications for future pregnancies and births should be discussed. All discussions should be documented in the maternal notes.

- A review should be undertaken the by obstetric team prior to discharge home.

2.6. Massive Obstetric Haemorrhage (MOH)

2.6.1. Trigger Phrase:

The anaesthetist /obstetrician leading on the management of the massive obstetric haemorrhage must communicate to all members of the clinical team involved in the care of the women that the situation has now become a 'Massive Obstetric Haemorrhage'. The time that the MOH was declared must be communicated to the entire obstetric team, noted and documented on the proforma (Appendix 3). Communication between other clinical areas e.g. blood bank, switchboard and porters must include the trigger phrase of 'Major Haemorrhage'. This is a Trust-wide trigger for any significant haemorrhage.

- Communication and Resuscitation must be simultaneous - **CALL FOR HELP** – Summon Help via emergency Buzzer.
- Communication pathway: "2222, STATE obstetric emergency and major haemorrhage".
- Involve senior medical staff early (Senior Anaesthetists and consultant Obstetrician).
- If the neonatal team is required 2222 neonatal emergency.
- Allocate a MSW or porter to be on standby for urgent blood samples/collection of blood.
- Consider informing Intervention Radiology team This should be done at Consultant staff level. To Contact Interventional Radiology in Emergency Cases of Post Partum Haemorrhage:
    - **IN HOURS (Monday to Friday – 9.00 am to 5.00 pm):**
        - Ring extension 2344 or 3962 (angiography suite).
        - If no answer, ring x-ray secretaries on extension 2285 or 2348. Inform them that you need to speak urgently with a Consultant Interventional Radiologist.
        - If this fails, request that switchboard contact the on call Interventional Radiologist.
    - **OUT OF HOURS:**
        - Request that switchboard contact the on call Interventional Radiologist. Do not leave a message on an answerphone.

2.6.2. Resuscitation

- Full A to E assessment and management of Airway, Breathing, Circulation, Drugs/Disability, Exposure and Emergency Surgery.
- Oxygen 100% high flow, via reservoir mask.

- Full left lateral tilt for APH - Head down, legs up.
- Consider warming blanket.
- Site two large bore IV cannulas (at least 16 g). Take blood at the same time for urgent cross match (type specific), full blood count (FBC), ROTEM and coagulation screen.
- Commence a Modified Early Obstetric Warning System (MEOWS) chart including fluid balance monitoring. If the woman is already in theatre the monitoring will be done by the anaesthetist using the appropriate anaesthetic chart and the MEOWS chart will be started when the woman is in recovery.

2.6.3. Fluid balance

- Warm all resuscitation fluids (cell salvage blood does not require a blood warmer) and aim to correct hypovolaemia initially with crystalloids.
- Consider permissive hypotension – systolic BP <85mmHg.
- If a blood transfusion is required urgently and a delay anticipated in receiving group specific blood, consider the use of O Rhesus negative blood in Maternity blood fridge.
- Restore normovolaemia, monitor Hb and haematocrit, use nearside patient testing (HaemaCue) or blood gas.
- If the MOH trigger is called, request 'Obstetric Haemostatic Pack' from lab (ext. 2500). Pack 1 contains 4 units of type specific red blood cells (RBC). Pack 2 will automatically follow pack 1 unless blood bank is asked to stand down. Pack 2 will contain 4 units of Fresh Frozen Plasma (FFP) and one unit of platelets (which should be given on arrival) and a further 4 units of cross matched RBC. Pack 3 contains 4 units of FFP, 4 units of RBC, one unit of platelets and two units of Cryoprecipitate. Pack 3 will recurrently be delivered until blood bank is informed to discontinue.
- Use FBC, ROTEM, ABG and coagulation studies, fibrinogen levels and haematology advice to guide the use of further blood products: FFP (for clotting factors), cryopreciptate (for fibrinogen), platelets (to maintain >50x109/l).
- Re-infusion of blood from the cell saver can be given through a normal blood giving set (blood warmer nor required). A Leucocyte depletion filter is not required unless there is a specific reason for using one as per, Intraoperative Cell Salvage Clinical Guideline. Cell Saver blood must be prescribed.

2.6.4. Monitoring

- Monitor heart rate, blood pressure, respiratory rate, oxygen saturation and temperature at 15-minute intervals.

- Documentation on maternal enhanced care chart (MECU) CHART.
- Catheterise and record urine output hourly.
- Blood gases, ROTEM and lactate as advised by anaesthetist.
- Consider invasive monitoring to guide on going therapy (A-line, CVP line).
- CTG +/- ultrasound if antenatal.
- Uterine height/tone/contractility and vaginal blood loss.

2.6.5. Clinical Management

- If antenatal: consider expediting delivery.
- If postnatal: rub up contraction and commence bimanual compression. This is tiring- change clinician regularly to maintain effectiveness.
- Transfer to theatre early for further resuscitation and possible surgery.
- Request ODP to set up cell saver.
- Start medical management (for postpartum cases):
  - Oxytocin 40iu in 500mls Normal Saline IV given at 125mls/per hour for 4 hrs (10iu per hour).
  - Ergometrine 500mcg IM or IV (NOT if raised BP).
  - Haemabate 250mcg given deep IM every 15 minutes up to 8 doses (NOT if asthmatic).
  - Misoprostol 800mcg PR/ sublingual.
  - Tranexamic acid 1g IV.
- Surgical manoeuvres for post-partum cases:
  - Intrauterine balloon.
  - Vaginal pack.
  - B Lynch suture.
  - Ligation of uterine and then internal iliac arteries (but not if considering Intervention Radiology).
  - Consider role of interventional radiology.
  - Hysterectomy (involve second consultant in decision if time allows and additional skills required). Do not delay decision.

2.6.6. Post-operative care:

- Multidisciplinary decision to determine requirements for ICU/HDU care.
- Inform blood bank of resolution of MOH.
- Consider prophylactic antibiotics.
- Avoid blood transfusion unless <60g/L or anaemia is very symptomatic.
- Intravenous iron if Hb <100g/L.
- Venous thromboprophylaxis should be commenced after haemostasis is secured due to prothrombotic state developing after major haemorrhage.
- Debrief the woman and her partner.

2.6.7. Documentation

- Complete MOH proforma.
- DATIX
- MECU admission on E3.
- MECU Chart.
- Ensure enhanced level 1 care is documented on E3.

2.7. Communication and Responsibilities

2.7.1. Effective communication is the key to management of obstetric haemorrhage. Clear lines of communication are vital between the medical, midwifery and laboratory staff, between junior and senior staff and between different specialties. All discussions should be documented in the maternal notes. The Obstetric haemorrhage proforma should be used to record communication, care and management and secured into the maternal notes on completion.

2.7.2. The Obstetric haemorrhage proforma must be used for cases in theatre.

2.7.3. The labour ward coordinator is responsible for ensuring relevant medical, social and obstetric history and events prior to the haemorrhage are communicated clearly to the midwifery, obstetric and anaesthetic staff arriving.

2.7.4. Once an initial assessment of Major Obstetric Haemorrhage has been made:

- The Obstetric Registrar is responsible for ensuring the Consultant Obstetrician has been contacted, communicating with haematology/ blood transfusion as required and commencing immediate emergency resuscitative management.

- The consultant must attend if 1.5 litre loss and ongoing for those doctors in training that have not been signed off and for all 2 litres and ongoing cases.

- The delivery suite Anaesthetist is responsible for ensuring the Consultant Anaesthetist has been contacted, communicating with haematology/ blood transfusion as required and commencing immediate emergency resuscitative management. Ensure adequate IV access and bloods sent for FBC, G+S, coagulation and ROTEM.

- The Delivery Suite Co-ordinator is responsible for co-ordinating staff, calling the blood transfusion lab with woman's details with a summary of the clinical scenario, woman's name, DOB, Hospital number and woman's weight), ensuring blood samples are sent and considering needs of the partner and relatives of the woman. This can be delegated to an appropriate member of the team, but the overall responsibility lies with the DS coordinator.

- Once informed and/or present the Consultant Obstetrician, Consultant Anaesthetist, haematologist, blood transfusion personnel and labour ward co-ordinator must regularly communicate with one another face to face or by phone before arrival to update the team regarding the situation and agree an ongoing plan of care. This must be clearly documented in the maternity notes and summarised on the PPH proforma.

2.8. The Guidance within a Homebirth or Community Setting

2.8.1. Antenatal Management.

The community midwife is expected to:

- Arrange for immediate transfer to the obstetric unit; via 999 ambulance request category 1 transfer (please refer to Maternal Transfer by Ambulance Clinical Guideline (cornwall.nhs.uk).

- Community Midwife should consider siting a cannula (preferably wide bore/grey) and administer IV Hartmann's solution fluid replacement rapidly (Midwives can supply and administer this for use in maternal resuscitation under NMC midwives exemptions, NMC 2011). This must be administered with caution if the woman has known raised blood pressure.

- Commence observations of vital signs and document on MEOWS chart.

- Position woman in left lateral tilt/manually displace uterus.
- On arrival of paramedic support paramedic to administer high flow facial oxygen via a non-rebreathe mask.
- Collect and bring all blood soiled materials to aid blood loss estimation.
- Support paramedic to liaise with Delivery Suite co-ordinator re estimated time of arrival (ETA) and estimated blood loss (EBL).

2.8.2. Postnatal Management

The community midwife is expected to:

- Recommend active management for third stage if risk factors for PPH have developed or if during physiological third stage there is increased bleeding (NEW 2023).
- In the Community setting the Midwife will call Paramedics and arrange emergency transfer to Acute Unit. Community midwives and subsequently the Paramedics will work together as a team to undertake the following actions (to be undertaken simultaneously if there is a 2nd Midwife present).
- Call for help by phoning 999 and asking for request category 1 transfer (please refer to Maternal Transfer by Ambulance Clinical Guideline (cornwall.nhs.uk) policy).
- Initiate immediate emergency resuscitative management and assess the cause of the bleeding. Consider tissue, tone, trauma and thrombin (remember bleeding may be concealed).
- Immediately repair vaginal tear if this is the cause of bleeding or apply clamp to visible vessel(s) or consider direct pressure using a pack or maternity pads if unable to suture.
- If bleeding persists after initial active management, administer a second dose of Syntometrine (Oxytocin 5IU/Ergometrine 500mcg) or 2nd dose of Oxytocin if hypertensive or blood pressure not known) IM.
- Massage uterus, expel clots and rub up a contraction.
- Community Midwife to site large bore cannula and administer IV Hartmann's solution fluid replacement rapidly (Midwives can supply and administer this for use in maternal resuscitation under NMC midwives exemptions, NMC 2011).
- Consider whether bi-manual compression is required.
- Insert indwelling catheter.

- Commence 15-minute observations of vital signs and document on MEOWS chart.
- Position woman flat and elevate legs if hypotensive.
- Community Midwife to administer misoprostol 800mcg SL.
- Paramedic to administer high flow oxygen with a non-rebreathe mask consider use of IV tranexamic acid.
- Transfer and inform labour ward of events and estimated time of arrival.
- All blood loss should be estimated in the community setting and swabs and blood soiled items brought to hospital to be weighed. Procedures for transferring the women into the obstetric unit should be activated once a 500ml loss is estimated.
- The maternal transfer summary should be commenced as soon as possible to the time the midwife identifies the need for transfer.

2.8.3. Misoprostol

2.8.3.1. Situations for use:

If you have undertaken first line management of administering Syntometrine or 2nd dose of Oxytocin or inserted catheter and rubbed up a contraction and there is still on-going bleeding this is the next stage of your management.

2.8.3.2. Administration:

Administer 800 MCG (each tablet is 200 MCG, administer 4 tablets) sublingual.

2.8.4. Communication with the Obstetric Unit

The transferring midwife or second health professional must contact the Delivery suite to inform them of the transfer of the woman.

- Royal Cornwall Hospital delivery suite: 01872 252361 / 252365.
- North Devon District Hospital delivery suite: 01271 322605.
- North Devon and Exeter Hospital delivery suite: 01392 406650.
- Derriford hospital delivery suite: 01752 763610.
- Complete the appropriate documentation including SBARD.
- Prior to transfer the midwife must ensure the baby is labelled with two wristbands and a printed wristband added on arrival to RCHT.

2.9. Postnatal Care following a PPH

Follow the guidance as above in 2.5.8 and 2.5.9.

3. Monitoring compliance and effectiveness

Information Category	Detail of process and methodology for monitoring compliance
Element to be monitored	See Appendix 3.
Lead	Audit midwife.
Tool	Refer to Appendix 3.
Frequency	Individual cases identified via Patient Safety meeting.
Reporting arrangements	A formal report of the results will be received by the Audit Review Team.
Acting on recommendations and Lead(s)	Any deficiencies identified will be discussed at the Audit Review Meeting and an action plan developed Action leads will be identified and a time frame for the action to be completed. The action plan will be monitored by Audit Review Meeting.
Change in practice and lessons to be shared	Required changes to practice will be identified and actioned within a time frame agreed on the action plan. A lead member of the patient safety team will be identified to take each change forward where appropriate. The results of the audits will be distributed to all staff through the Patient Safety Newsletter and Audit Review Meeting.

4. Equality and Diversity

4.1. This document complies with the Royal Cornwall Hospitals NHS Trust service Equality and Diversity statement which can be found in the Equality Diversity And Inclusion Policy or the Equality and Diversity website.

4.2. Equality Impact Assessment

The Initial Equality Impact Assessment Screening Form is at Appendix 2.

Appendix 1. Governance Information

Information Category	Detailed Information
Document Title:	Obstetric Haemorrhage Clinical Guideline V4.1.
This document replaces (exact title of previous version):	Obstetric Haemorrhage Clinical Guideline V4.0.
Date Issued/Approved:	December 2024
Date Valid From:	December 2024
Date Valid To:	December 2027
Directorate / Department responsible (author/owner):	Sophie Haynes, Obstetric Consultant
Contact details:	01872 252730
Brief summary of contents:	This guidance is for obstetricians, obstetric anaesthetists, midwives, nurses and maternity support workers and gives guidance on the management of Obstetric Haemorrhage.
Suggested Keywords:	Massive Obstetric Haemorrhage, postpartum haemorrhage, PPH, ante partum haemorrhage, APH, praevia, abruption, vasa praevia, accrete, maternal collapse, bleeding, MOH, FFP, Bakri, embolization, cell salvage, oxytocin, platelets, Ergometrine, Misoprostol, Haemabate, interventional radiologist, B Lynch.
Target Audience:	**RCHT:** Yes **CFT:** No **CIOS ICB:** No
Executive Director responsible for Policy:	Chief Medical Officer
Approval route for consultation and ratification:	Maternity Guidelines Group
Manager confirming approval processes:	Caroline Chappell
Name of Governance Lead confirming consultation and ratification:	Tamara Thirlby
Links to key external standards:	None required

Information Category	Detailed Information
Related Documents:	• International Journal of Women's Health (2016). Efficacy of misoprostol for the treatment of PPH: current knowledge and implications for care planning for care planning • PROMPT (2021/2022) Practical Obstetric Multi-professional Training • BMJ (2011) Misoprostol for the management of postpartum haemorrhage • WHO (2008) Misoprostol to prevent and treat postpartum haemorrhage: a systematic review and metaanalysis of maternal deaths and dose related side effects • RCOG:Antepartum Haemorrhage (Green-top Guideline No. 63, 2011) • ROCG:Placenta Praevia, Placenta Praevia Accreta and Vasa Praevia: Diagnosis and Management (Greentop Guideline No. 27, 2011) • BJA-CEACCP: Massive haemorrhage in pregnancy volume 5 number 6 (2005) • The Scottish obstetric guidelines and audit project; The Management of PPH (Updated March 2002) • Frca.co.uk (Emergency treatment of obstetric haemorrhage) Blood transfusion and the anaesthetist: management of massive haemorrhage. AAGBI (Oct 2010)
Training Need Identified?	No
Publication Location (refer to Policy on Policies – Approvals and Ratification):	Internet and Intranet
Document Library Folder/Sub Folder:	Clinical / Midwifery and Obstetrics

Version Control Table

Date	Version Number	Summary of Changes	Changes Made by
April 2008	V1.0	Initial version.	Dr Catherine Ralph, Consultant Obstetric Anaesthetist
January 2011	V1.1	Inclusion of massive obstetric haemorrhage trigger phrase.	Dr Catherine Ralph, Consultant Obstetric Anaesthetist
April 2012	V1.2	Compliance monitoring tool added.	Dr Catherine Ralph, Consultant Obstetric Anaesthetist
Sept 2012	V1.3	Changes to compliance monitoring only.	Jan Clarkson, Maternity Risk Manager
June 2013	V1.4	If a blood transfusion is required and a delay is anticipated in receiving group specific blood, use 0 Rhesus negative blood.	Jan Clarkson, Maternity Risk Manager
October 2013	V1.5	Added: If bleeding continues: (Request **Obstetric Haemostatic Pack** from lab) pack 1 contains 6 units of cross matched blood, pack 2 will automatically follow pack 1 unless blood bank is asked to stand down, and that will contain FFP and platelets (which should be given on arrival) and a further 6 units of cross matched blood. Alteration: Fresh Frozen Plasma (FFP) is only produced upon request or routinely with second pack. Changed blood g/dl to g/l.	Jan Clarkson, Maternity Risk Manager

March 2014	V1.6	Added drug doses of uterotonics: Oxytocin 40iu in 500mls Normal Saline given at 125mls/per hour for 4 hrs (10iu per hour). Ergometrine 500mcg, given IM or IV (NOT if raised BP). Haemabate 250mcg given deep IM every 15 minutes up to 8 doses (NOT if asthmatic). Misoprostol 800mcg PR or PV, (avoid PV if using cell salvage). Changed: 4gd/l to 40g/l in line with current Hb levels.	Dr Catherine Ralph, Consultant Anaesthetist
February 2017	V1.7	Flow chart added and minor changes and merging of Major Obstetric Haemorrhage (MoH) Clinical guideline and Post Partum. Haemorrhage And addition of Antepartum. Haemorrhage section. Pack 3 added in line with recommendation from Dr Stephen Bassey.	Mr Rob Holmes, Consultant Obstetrician Dr Catherine Ralph, Consultant Anaesthetist Dr Stephen Bassey, Consultant Transfusion Scientist
September 17	V1.8	Risk Factors. Communication pathway to alert team. Care of APH in the community. Care of PPH in the community. Communication between community and main unit. Guideline to flow form APH, PPH to MoH. Flow charts added as appendices.	Trudie Roberts, Maternity Matron Community Karen Watkins, Obstetric Consultant
March 2018	V2.0	See New 2018 in body of text Syntocinon replaced with Oxytocin Algorithms added to 3.4.1 and 4.6.1	Rob Holmes, Consultant Anaesthetist and Helen Odell, Safety Improvement Lead and Maternity Guidelines Group

April 2018	V2.1	2.6.4.4 updated with Community Midwife responsibilities during APH regarding cannulation and administration of IV Hartmann's fluid replacement, communication with Delivery Suite coordinator, collecting blood soiled material and supporting paramedic. 2.7.5 Misoprostol administration and community midwife responsibility to cannulate and administer IV Hartmann's and clear care pathway for PPH in the community setting added.	Sarah-Jane Pedler, Practice Development Midwife
7June 2018	V2.2	Section 2.7.5 PGD for Misoprostol, signpost added to view PGD	Charlotte Boswell. Community Midwife
August 2019	V2.3	Section 2.5.3.4 added following recommendations from the Health Safety Investigation Branch (HSIB) regarding escalation.	Sarah-Jane Pedler, Practice Development Midwife
December 2019	V2.4	Section 2.1 updated re blood bank contact.	Sarah-Jane Pedler, Practice Development Midwife
December 2020	V3.0	2.6.3.4. Detail added regarding infusion of oxytocin. 2.7.4. Inclusion of use of uterotonics prior to calling paramedics in community setting, detail added to immediate repair of vaginal tear, changes to 2nd dose of uterotonics. 2.8.1.4. Detail added to administration of uterotonic drugs.	Rob Holmes, Consultant Obstetrician
February 2021	V3.1	2.7.3.5. Ensure adequate IV access and bloods sent for FBC, coagulation and ROTEM. 2.8.3.2. Transfer to PN ward should be delayed until any infusion of blood products has been completed. 2.8.3.8. A review should be undertaken by the SHO prior to discharge home.	Rob Holmes, Consultant Obstetrician

July 2023	V4.0	Full update including: Addition of 2.4.3.7, 2.7.4 the consultant must attend, 2.5.5.2 misoprostol update and '2222' call update, 2.6.1 interventional radiology update. Removal of out-of-date appendices.	Sophie Haynes, Obstetric Consultant Catherine Wills, Practice Development Midwife
December 2024	V4.1	Addition of 2.5.5. in acknowledgement of a national patient safety alert	Laura Cawsey, Interim Intrapartum Matron.

All or part of this document can be released under the Freedom of Information Act 2000

All Policies, Strategies and Operating Procedures, including Business Plans, are to be kept for the lifetime of the organisation plus 6 years.

This document is only valid on the day of printing.

Controlled Document

This document has been created following the Royal Cornwall Hospitals NHS Trust The Policy on Policies (Development and Management of Knowledge Procedural and Web Documents Policy). It should not be altered in any way without the express permission of the author or their Line Manager.

Appendix 2. Equality Impact Assessment

Section 1: Equality Impact Assessment (EIA) Form

The EIA process allows the Trust to identify where a policy or service may have a negative impact on an individual or particular group of people.

For guidance please refer to the Equality Impact Assessment Policy (available from the document library) or contact the Equality, Diversity, and Inclusion Team rcht.inclusion@nhs.net

Information Category	Detailed Information
Name of the strategy / policy / proposal / service function to be assessed:	Obstetric Haemorrhage Clinical Guideline V4.1
Directorate and service area:	Obstetrics and Gynaecology
Is this a new or existing Policy?	Existing
Name of individual completing EIA (Should be completed by an individual with a good understanding of the Service/Policy):	Catherine Wills, Practice Development Midwife
Contact details:	01872 255019

Information Category	Detailed Information
1. Policy Aim - Who is the Policy aimed at? (The Policy is the Strategy, Policy, Proposal or Service Change to be assessed)	To give guidance to obstetricians, obstetric anaesthetists, midwives, nurses and maternity support workers on the management of Antepartum Haemorrhage, Postpartum Haemorrhage and Major Obstetric Haemorrhage.
2. Policy Objectives	To ensure timely recognition and management of Antepartum Haemorrhage, Postpartum Haemorrhage and Major Obstetric Haemorrhage.
3. Policy Intended Outcomes	Safe outcome for pregnant or newly delivered women.
4. How will you measure each outcome?	Compliance monitoring.
5. Who is intended to benefit from the policy?	Pregnant and newly delivered women.

Information Category	Detailed Information
6a. Who did you consult with? (Please select Yes or No for each category)	• Workforce: Yes • Patients/ visitors: No • Local groups/ system partners: No • External organisations: No • Other: No
6b. Please list the individuals/groups who have been consulted about this policy.	**Please record specific names of individuals/ groups:** Maternity Guidelines Group
6c. What was the outcome of the consultation?	Guideline Agreed
6d. Have you used any of the following to assist your assessment?	**National or local statistics, audits, activity reports, process maps, complaints, staff, or patient surveys:** No

7. The Impact

Following consultation with key groups, has a negative impact been identified for any protected characteristic? Please note that a rationale is required for each one.

Where a negative impact is identified without rationale, the key groups will need to be consulted again.

Protected Characteristic	(Yes or No)	Rationale
Age	No	
Sex (male or female)	No	
Gender reassignment (Transgender, non-binary, gender fluid etc.)	No	
Race	No	
Disability (e.g. physical or cognitive impairment, mental health, long term conditions etc.)	No	
Religion or belief	No	
Marriage and civil partnership	No	

Protected Characteristic	(Yes or No)	Rationale
Pregnancy and maternity	No	
Sexual orientation (e.g. gay, straight, bisexual, lesbian etc.)	No	

A robust rationale must be in place for all protected characteristics. If a negative impact has been identified, please complete section 2. If no negative impact has been identified and if this is not a major service change, you can end the assessment here.

I am confident that section 2 of this EIA does not need completing as there are no highlighted risks of negative impact occurring because of this policy.

Name of person confirming result of initial impact assessment: Catherine Wills, Practice Development Midwife.

If a negative impact has been identified above OR this is a major service change, you will need to complete section 2 of the EIA form available here:
Section 2. Full Equality Analysis

Appendix 3. Guideline Audit Tool

No.	Audit Questions minor APH (see MOH if appropriate)
1	On presentation was a full medical and obstetric history taken?
2	Was a MEOWS calculated?
3	If >28/40 was a CTG commenced?
4	Was the woman reviewed within 30 minutes of presenting to the unit by and SpR or consultant obstetrician?
5	Did they have IV access? (Unless spotting only)
6	Did they have FBC + G+S taken?
7	If APH heavier than spotting or ongoing bleeding – were they admitted until at least 24 hours/bleeding stopped
8	If APH heavier than spotting – scans for 28/32/36/40 weeks should be requested on MAXIMS

No.	Audit Questions placenta abruption
1	Once diagnosed – was the woman assessed for pre-eclampsia and FGR?
2	Was active third stage initiated?
3	Was 40iu Oxytocin: 500ml NaCl 0.9% 500ml run as an infusion after delivery to prevent PPH?

No.	Audit Questions major APH
1	Was the viability and condition of the fetus only assessed when the mother was stable?
2	Was transfer considered if <27 weeks gestation?
3	Was PERIPREM considered if applicable? (24-34+6 eg. steroids and mag sulph)
4	Was VTE prophylaxis prescribed after bleeding settled?
5	For bleeds unrelated to placenta praevia – was a speculum performed before discharge

No.	Audit Questions PPH
1	Were any booking/antenatal risk factors identified? • Previous PPH or retained placenta. • Previous LSCS. • BMI >35. • Existing uterine anomalies. • Age >40. • Pre-existing bleeding disorders • APH. • Over distension of the uterus (multiple pregnancy, macrosomia, polyhydramnios). • Placenta Praevia, Vasa Praevia and Abnormally Invasive Placenta • Hypertension. • Therapeutic anticoagulants.
2	Were any intrapartum risk factors identified? • Induction. • Augmentation. • Prolonged 1st and 2nd stage and retained placenta. • Precipitate labour. • Pyrexia in labour. • Operative birth or caesarean section. • Retained placenta. • Lower genital tract trauma.
3	Was risk documented clearly on the electronic and handheld notes and referred to Consultant Obstetrician?
4	Were they screened for and any anaemia corrected?
5	Did they have early IV access and bloods?
6	Did they have active third stage +/- oxytocin infusion?
7	Was the woman lay flat and facial oxygen commenced?
8	Was the cause of bleeding assessed? (4 T’s)
9	If not already, was IV access inserted?
10	Was the blader emptied?
11	Were bloods (FBC, G+S +/- clotting and crossmatch) taken?
12	Were IV fluids commenced?

No.	Audit Questions PPH
13	Were uterotonic and other appropriate drugs given?
14	Was VTE considered postnatally?
15	Was a MEOWS started at 5 mins and de-escalated as necessary?
16	Was a PPH proforma completed if >1000mls?
17	Was a DATIX submitted if >1000mls?
18	Was a fluid balance continued for 24hours if >1L PPH?
19	Was an FBC taken PN at day 2 or prior to discharge?

	Audit Questions MOH (≥2,000mls) blood loss 150ml/min or 50% of volume in 3 hours **(MOH refers to blood loss that is ongoing and uncontrolled)**
1	Was MOH trigger phrase used?
2	Were senior medical staff involved early?
3	Was 100% high flow oxygen administered?
4	Was warming blanket considered?
5	Did they have 2 large bore cannulas and were bloods taken?
6	Were MEOWS including fluid balance commenced?
7	Were all fluids warmed?
8	Was this documented on MECU chart?
9	Was the woman catheterised?
10	Was hourly urine output recorded?
11	Were appropriate uterotonics utilised?
12	Was transfer to theatre performed appropriately?
13	Was Cell Salvage set up and utilised?
14	Were surgical measures utilised as appropriate?
15	Were extra bloods taken – fibrinogen levels, coagulation studies, lactate, ROTEM?
16	Was the MOH documented appropriately (Scribe/ MOH proforma)
17	Was DATIX completed?
18	Was a fluid balance chart commenced for 24 hours post-delivery?
19	If fluid output is abnormal, was this reviewed by the SpR or consultant urgently?
20	Was venous thromboprophylaxis prescribed and administered?