Guideline for the Management of Antepartum Haemorrhage

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Target Audience:

People who need to know about this document in detail	All midwifery, obstetric, locum and bank staff working within maternity services CTM UHB
People who need to have a broad understanding of this document	As above
People who need to know that this document exists	As above

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Disclaimer:

If the review date of this document has passed please ensure that the version you are using is the most up to date version either by contacting the author or CTM_Corporate_Governance@wales.nhs.uk

Guidelines Definition

Clinical guidelines are systematically developed statements that assist clinicians and patients in making decisions about appropriate treatments for specific conditions.

They allow deviation from a prescribed pathway according to the individual circumstances and where reasons can be clearly demonstrated and documented.

Minor Amendments

If a minor change is required to the document, which does not require a full review please identify the change below and update the version number.

Type of change	Why change made	Page number	Date of change	Version 1 to 1.1	Name of responsible person
April 25	3 yr update			1 to 2	Ceridian Daniel/Aditi Miskin/Helen Marx

Related Guidelines

- Anti D
- Antenatal Corticosteroids
- Preterm Labour
- Placenta Praevia

Contents

1. Introduction

Antepartum haemorrhage (APH) is defined as bleeding from the genital tract occurring from 24+0 weeks of pregnancy and prior to the birth of the baby (PROMPT, 2017).

Definitions (RCOG 2011)

Spotting – staining, streaking or blood spotting noted on underwear or sanitary protection

Minor haemorrhage – blood loss less than 50 ml that has settled

Major haemorrhage – blood loss of 50–1000 ml, with no signs of clinical shock

Massive haemorrhage – blood loss greater than 1000 ml and/or signs of clinical shock.

Recurrent APH is the term used when there are episodes of APH on more than one occasion

The most common causes of **major** APH are placenta praevia and placental abruption Uterine rupture can also lead to massive haemorrhage. Ruptured Vasa Praevia is not associated with major maternal blood loss, but it can cause catastrophic blood loss for the fetus, which can result in acute fetal anaemia and risk of death for the fetus (PROMPT, 2017).

APH complicates 3–5% of pregnancies and is a leading cause of perinatal and maternal mortality worldwide. Up to one-fifth of very preterm babies (birth between 28 - 32 weeks gestation) are born in association with APH, and the known association of APH with cerebral palsy can be explained by preterm delivery (RCOG, 2011).

In the UK, although deaths from obstetric haemorrhage are uncommon, it still emerges as the major cause of severe maternal morbidity in almost all 'near miss' audits in both developed and developing countries. In the 2023 MBRRACE report, covering 2019-2021, 7% of mortalities could be attributed to bleeding. APH has a heterogeneous pathophysiology and cannot reliably be predicted.

2. Women on Anti-coagulant therapy

Women receiving antenatal anticoagulant therapy (usually low molecular weight heparin or Enoxaparin) should be advised that if they have any vaginal bleeding, they should not take any more doses of anticoagulant medication. They should attend hospital urgently, be assessed on admission and further doses should only be administered after consultation with medical staff.

If a woman develops a haemorrhagic problem while on anticoagulant therapy, the treatment should be reviewed urgently and expert haematological advice sought.

3. Placental Abruption

When a woman is attending with placental abruption, possible presenting features include bleeding (although this may be concealed), constant pain, shock and fetal compromise may be noted during Cardiotocograph (CTG). The uterus may be irritable, or it may be tender, hard and appear woody on palpation (PROMPT, 2017).
Abruption is usually a sudden and unexpected obstetric emergency, not predictable by means of known risk factors. Approximately 70% of cases of placental abruption occur in low-risk pregnancies. The most predictive indicator is abruption in a previous pregnancy. With 1 previous abruption the risk is 4.4%. This increases to 19-25% with 2 previous abruption. (RCOG, 2011).

Other risk / contributory factors for placental abruption include:

- Pre-eclampsia
- Fetal growth restriction

- Non-vertex presentations
- Polyhydramnios
- Advanced maternal age
- Multiparity
- Low body mass index (BMI)
- Pregnancy following assisted reproductive techniques
- Intrauterine infection
- Premature rupture of membranes
- Abdominal trauma
- Smoking and drug misuse (cocaine and amphetamines) during pregnancy
- Maternal thrombophilias, especially heterozygous Factor V Leiden and Prothrombin gene mutation
- First trimester bleeding

4. Placenta Praevia

Possible presenting features of placenta praevia may include painless vaginal bleeding, high presenting part or transverse lie, or shock. The uterus would be non-tender and soft or irritable (PROMPT, 2017).

Risk / contributory Factors for placenta Praevia

- Previous placenta praevia
- Previous caesarean sections
- Previous termination of pregnancy
- Multiparity
- Advanced maternal age (>40 years)
- Multiple pregnancy
- Smoking
- Deficient endometrium due to presence or history of:
    - Uterine scar

    - Endometritis
    - Manual removal of placenta
    - Curettage
    - Submucous fibroid
- Assisted conception

5. Vasa Praevia

Possible presenting features of vasa praevia include variable fresh vaginal (PV) blood loss after rupture of membranes, acute fetal compromise with no maternal shock. Uterus would feel normal (PROMPT, 2017).

Risk / contributory Factors for Vasa Praevia

- Low lying placenta
- Succenturiate lobe

Assisted reproduction

6. Uterine rupture

Possible presenting features of uterine rupture include the sudden onset of constant sharp pain, peritonism, abnormal or pathologic CTG, high or unreachable presenting part, bleeding (may be concealed), shock, and haematuria. Women that were contracting may find that the contractions cease (PROMPT, 2017).

Risk / contributory Factors for Uterine Rupture

- Previous uterine surgery
- Parity of 4 or more
- Trauma
- Oxytocin infusion during labour

7. Maternal and Fetal Complications of APH

Health professionals should be aware of the association between domestic violence and APH. Women presenting with APH, should undergo RE1 at all contacts.

Complications are most likely to occur when there is a placental cause for APH, if bleeding is heavy or if bleeding occurs at an early gestation.

Maternal complications:

- Anaemia
- Infection
- Shock
- Renal tubular necrosis
- Consumptive coagulopathy
- Postpartum haemorrhage
- Prolonged hospital stay
- Psychological sequelae
- Complications of blood transfusion (RCOG, 2011)

Fetal complications

- Fetal hypoxia
- Small for gestational age and fetal growth restriction
- Prematurity (iatrogenic and spontaneous)
- Fetal death

8. Management of APH (Refer to Appendix 1)

Women presenting with a major or massive haemorrhage that is persisting or if the woman is unable to provide a history due to a compromised clinical state, an acute appraisal of maternal wellbeing should be performed and resuscitation started immediately. The

mother is the priority in these situations and should be stabilised prior to establishing the fetal condition. Regardless of the gestation, the mother's life should take priority. She should be resuscitated and stabilised before any decision is made regarding delivery of the baby.

8.1 Initial Assessment

It is good practice for the receiving maternity unit to be informed of the imminent arrival of a patient with APH being transported by ambulance through the use of the 'red phone' on delivery suite. This will allow the MDT (Obstetrics, Anaesthetics, Paediatrics +/- Haematology) to be ready to receive the patient. Equipment should also be made ready for assessment and treatment. If a woman arrives unexpectedly with an APH, help should be summoned. A scribe should be assigned to capture events (Please refer to Appendix 2) and start the Obs Cymru paperwork.

The aim of clinical assessment in women presenting with APH is first to establish whether urgent intervention is required to manage maternal or fetal compromise. The following clinical requirements happen simultaneously by the MDT. Closed loop communication should be used by the team to indicate to the scribe when these tasks have completed.

If there is no maternal compromise, a full history should be taken encompassing:

- Presence or absence of pain
    - Consider abruption if pain is constant
    - Consider labour if pain is intermittent
- Risk factors for abruption and praevia
- Fetal movement pattern
- Any suggestion of rupture of membranes

    - If bleeding occurred at ROM consider vasa praevia
- Cervical smear history and presence of known cervical lesion

8.2 Resuscitation

The basic principles of resuscitation should be adhered to in all women presenting with collapse or major haemorrhage, as outlined in Green-top Guideline No.56 Maternal Collapse in Pregnancy and the Puerperium. The primary survey should follow the approach of airway (A), breathing (B) and circulation (C). Following initial assessment and commencement of resuscitation, causes for haemorrhage or collapse should be sought. This should take place in left lateral position.

8.3 Observations

A full set of maternal observations should be carried out and documented on a MEOWS chart.

8.4 Abdominal palpation

The woman should be assessed for tenderness or signs of a tense abdomen. The tense or 'woody' feel to the uterus on abdominal palpation indicates a significant abruption. Abdominal palpation may also reveal uterine contractions. A soft, non-tender uterus may suggest a lower genital tract cause or bleeding from placenta or vasa praevia.

8.5 Speculum examination

A speculum examination can be useful to identify cervical dilatation or visualise a lower genital tract cause for APH. If a woman presents with a clinically suspicious cervix, she should be referred for colposcopic evaluation. Caution should be taken where there is a known major placenta praevia, and senior obstetric input sought.

8.6 Vaginal examination

If placenta praevia is a possible diagnosis (for example, a previous scan shows a low placenta, there is a high presenting part on abdominal examination or the bleed has been painless), digital vaginal examination should **not** be performed until an ultrasound has excluded placenta praevia.

If speculum examination is unable to exclude cervical dilatation, careful vaginal examination may be performed to provide information, only if APH is associated with pain or uterine activity.

8.7 Blood tests for major/massive APH:

Site 2 large bore cannulae and obtain the following blood tests:

- Full blood count
- Coagulation screen
- Urea and electrolytes
- Liver function tests
- 4 units of blood cross-matched
- Kleihauer should be performed in rhesus D negative women to quantify fetomaternal haemorrhage and gauge dose of anti_D required

8.8 Blood tests for minor APH:

Site 1 large bore cannula and obtain the following blood tests:

- Full blood count
- One or 2 group and save samples to ensure suitable for electronic issue
- Kleihauer in rhesus D (RhD)-negative women
- Coagulation screen is only required if platelet count is abnormal

8.9 Fluid balance and measurement of Blood Loss

Blood loss must be measured by weighing all loss. Visual estimation should only be used for loss that occurs prior to arrival. . Commence fluid balance chart and Obs Cymru paperwork.

8.10 Ultrasound scan

Ultrasonography will fail to detect three-quarters of cases of abruption. However, when the ultrasound suggests an abruption, the likelihood that there is an abruption is high. If clinical suspicion for an abruption is high, do not perform ultrasound assessment.

If the placental location is not already known, or if the placenta was low-lying at the most recent assessment, perform ultrasound to confirm or exclude placenta praevia.

8.11 Fetal investigation

APH, particularly major haemorrhage can result in fetal hypoxia and abnormalities of the fetal heart rate pattern. Therefore, an assessment of the fetal heart rate should be performed via CTG if 26 weeks or more, or by auscultating the fetal heart if <26 weeks. https://wisdom.nhs.wales/health-board-guidelines/cwm-taf-maternity-file/fetal-monitoring-guideline/ This will aid decision making regarding timing and mode of delivery. Where CTG is abnormal, this is associated with poor fetal outcome, and delivery should be expedited.

Ultrasound should be carried out to establish fetal heart pulsation if fetal viability cannot be detected using external auscultation to exclude fetal death.

Do not perform tests with the aim of differentiating between fetal and maternal haemorrhage as these have not been validated. Fetal heart

rate monitoring is the most reliable indicator of fetal haemorrhage and would demonstrate severe fetal compromise.

9. Ongoing Care

9.1 Admission

Women presenting with spotting who are no longer bleeding and where placenta praevia has been excluded where an ectropion is seen to explain the bleed, and there is no evidence of bleeding on speculum can go home after a initial clinical assessment.

All women with APH heavier than spotting and women with ongoing bleeding should remain in hospital for close observation for at least 24 hours after the bleeding has stopped.

Each woman must be assessed on an individual basis and clinical judgment applied.

9.2 Antenatal corticosteroids

Clinicians should offer a single course of antenatal corticosteroids to women between 24+0 and 34+6 weeks of gestation at risk of preterm birth. In very late preterm gestation (from 35 weeks), the use of antenatal corticosteroids should be considered in light of the balance of risks and benefits. When offering or considering use of steroids discuss with the woman, how corticosteroids may help and the potential risk associated with them RCOG Green-top Guideline No. 74).

2 doses of Betamethasone 12mg should be given 24 hours apart. After consultation with a senior clinician, the interval may be reduced

to 12 hours if it is felt to be unlikely that there will be sufficient time to await the 2nd dose at 24 hours.
Delivery should not be delayed for antenatal corticosteroids if the indication for birth is impacting the health of the woman or her baby.

In women with APH and no immediate indication to deliver the baby, an assessment should be made in each individual case. If bleeding is associated with pain suggestive of uterine activity or abruption, the risk of preterm birth is increased and therefore steroids may be of benefit.

Women presenting with spotting which has stopped (particularly an identified lower genital tract cause such as post-coital from a cervical ectropion) and no abdominal pain or tenderness may not require steroids.

9.3 Anti D

Please refer to CTMUHB Anti D Guideline.

9.4 Tocolysis

Tocolysis should not be used to delay birth in a woman presenting with a major APH, or who is haemodynamically unstable, or if there is evidence of fetal compromise.

A senior obstetrician should make any decision regarding the initiation of tocolysis in the event of an APH.

If tocolysis is employed, then the drug of choice in a woman with a history of APH should have fewest maternal cardiovascular side effects. The calcium antagonist nifedipine has been associated with cases of maternal hypotension and is probably best avoided. Please refer to the CTMUHB Pre-term Labour Guideline for tocolysis and dosage regime.

9.5 Follow on care

Following single or recurrent episodes of minor APH from a cervical ectropion, subsequent antenatal care need not be altered.

Following APH from placental abruption or unexplained APH, the pregnancy should be reclassified as 'high risk' and antenatal care must be consultant-led. Serial ultrasound for fetal growth should be performed.

If placenta praevia is diagnosed, subsequent antenatal care must be Consultant Led.

10. Labour and Birth including Neonatal Involvement

APH associated with maternal or fetal compromise is an obstetric emergency. Management should include maternal resuscitation and in cases of maternal, or fetal compromise, birth should be expedited. Birth in this situation will usually be by caesarean section, unless vaginal delivery is imminent.

In women presenting with APH before 37+0 weeks of gestation, where there is no maternal or fetal compromise and bleeding has

settled, there is no evidence to support elective premature birth of the baby.

If the woman presents after 37+0 weeks of gestation, it is important to establish if the bleeding is an APH or blood stained 'show'. If the APH is spotting or the blood is streaked through mucus it is unlikely to require active intervention.

In the event of a minor or major APH with a stable mum and baby, induction of labour with the aim of achieving a vaginal delivery should be considered in order to avoid adverse consequences potentially associated with a placental abruption.

Major or massive APH may cause fetal compromise, and therefore a senior paediatrician or neonatologist should be present for the delivery to assess the neonate. With ongoing APH, neonatal support would be appropriate. Use clinical judgement in the case of minor APH to determine if neonatal involvement is required.

10.1 Monitoring in Labour

Women in labour with active vaginal bleeding require continuous electronic fetal monitoring, therefore the Normal Labour Pathway should NOT be used. All care should be recorded in the high risk obstetric notes.

Women who are in labour, whose pregnancies have been complicated by either major APH, recurrent APH or any suspicion of abruption, should have continuous electronic fetal monitoring.

Women with minor APH with evidence of placental insufficiency (such as fetal growth restriction or oligohydramnios) should be recommended to undergo continuous electronic fetal monitoring.

In women who have experienced one episode of minor APH, in which there have been no subsequent concerns regarding maternal or fetal wellbeing, intermittent auscultation is appropriate and therefore the Normal Labour Pathway can be used.

10.2 Anaesthesia

Regional anaesthetic is recommended for operative delivery unless there is a specific contraindication.

In a case of APH where maternal or fetal condition is compromised and caesarean section required, a general anaesthetic should be considered to facilitate control of maternal resuscitation and to expedite delivery.

The choice of anaesthesia for each case requires an individual assessment by a senior anaesthetist; if the woman is haemodynamically stable, the magnitude of active bleeding should determine the appropriateness of regional anaesthesia.

A consultant anaesthetist should be involved in the intrapartum care of women with APH with associated compromise.

10.3 Third Stage Management

APH arising from placental abruption and placenta praevia is associated with an increased risk of postpartum haemorrhage, therefore active management of the third stage of labour should be strongly advised.

Consideration should be given to the use of Oxytocin and Ergometrine combined to manage the third stage of labour in women with APH resulting from placental abruption or placenta praevia in the absence of hypertension. A Prophylactic Oxytocin 40IU in 500mL infusion over 4 hours (125mL/hr) should also be considered for the postnatal period. Please refer to the All Wales OBS Cymru guidance for the management of post-partum haemorrhage.

11. Post Natal Management

The postnatal management of pregnancies and births complicated by massive APH should include thromboprophylaxis, debriefing and clinical incident reporting. Women should be given the opportunity to discuss their care with the senior obstetrician responsible. Women should be informed off the Birth Afterthoughts service and advised how to refer themselves in.

12. Documentation

All events should be carefully documented. Use the Obs Cymru paperwork and clinical notes to facilitate this.
A Datix Clinical Incident Form should be complete for all cases of major haemorrhage. **RCOG Green top Guideline Haemorrhage**

13. Audit

- The administration of corticosteroids to women presenting with APH less than 34+6 weeks of gestation.

- Administration of anti-D Ig to non-sensitised RhD-negative women presenting with APH.

- Percentage of women with APH (recurrent episodes of minor APH, a major APH that has resolved or unexplained APH) referred for serial growth scans.

- Management of the third stage of labour in women who had a major APH.

- Appropriate training of the multidisciplinary team.

14. References

- NICE guideline [NG25] Preterm labour and birth Published date: 20 November 2015 Last updated: 02 August 2019

- PROMPT. (2017). Course Manual 3rd edition.

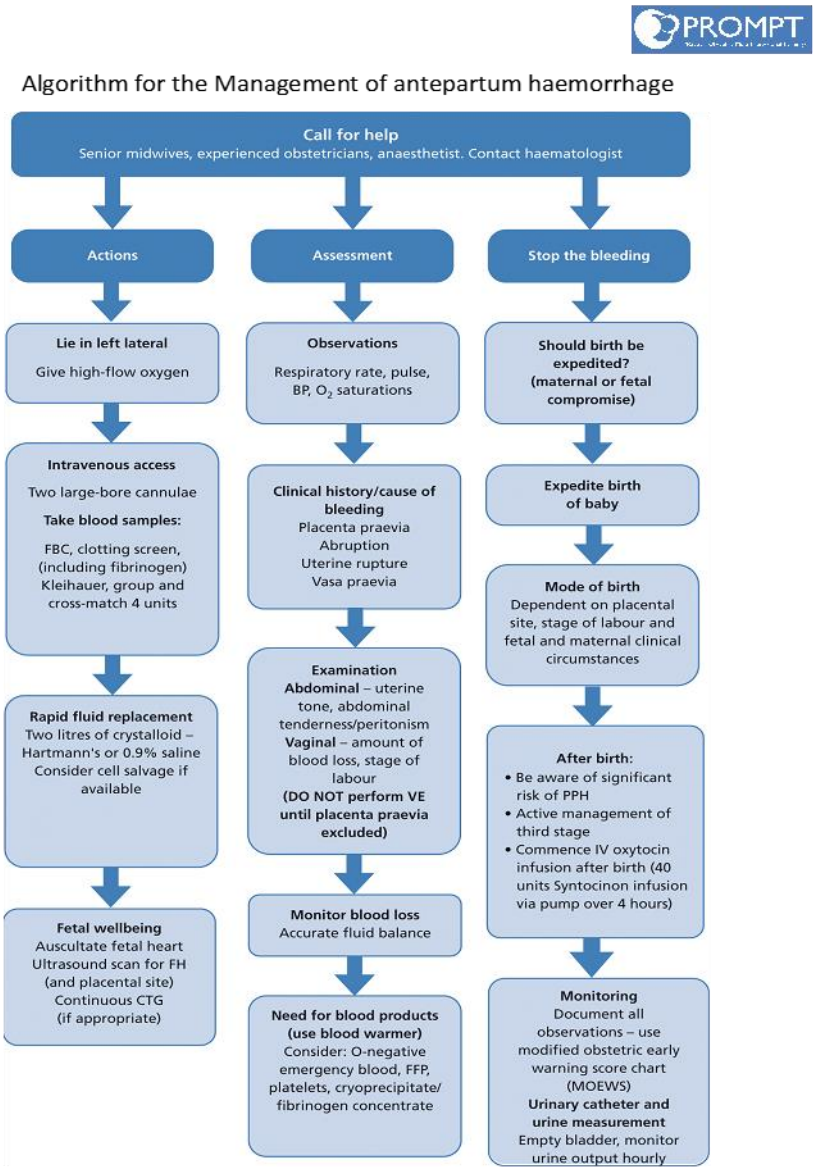
- RCOG. (2011). Green Top Guideline no. 63 Antepartum haemorrhage https://www.rcog.org.uk/en/guidelines-research-services/guidelines/gtg63/ (Updated 2014)

- RCOG.(2016) Green-top Guideline No. 52 Prevention and Management of Postpartum Haemorrhage. https://www.rcog.org.uk/en/guidelines-research-services/guidelines/gtg52/

- **RCOG (2022) Green-top Guideline No. 74 Antenatal corticosteroids to reduce neonatal morbidity and mortality**

- **https://wisdom.nhs.wales/all-wales-guidelines/all-wales-guidelines/all-wales-pph-guideline-management-and-prevention/**

Appendix 1. Algorithm for the Management of Antepartum Haemorrhage



Appendix 2. Antepartum Haemorrhage Checklist

PROMPT

Antepartum haemorrhage Scenario: Clinical Checklist

		Time	✓
Recognise	Recognise constant abdominal pain		
	Recognise abnormal fetal heart rate pattern		
	Abdominal assessment		
	Vaginal assessment **ONLY** after confirming fundal placenta		
	Recognise risk factors in clinical history		
	Recognise antepartum haemorrhage caused by placental abruption		
Call for help	Summon appropriate help urgently		
	Call for experienced help (including neonatologist once decision made to expedite birth)		
Management	Woman in left-lateral position		
	Administer high-flow facial oxygen		
	IV access and blood for FBC, clotting and cross-match (4 units of blood depending on blood loss)		
	Commence 2 litres IV crystalloid as quickly as possible		
	Decision to expedite birth		
	Plan for category 1 caesarean section		
	Emergency transfer to theatre		
	Decision re appropriate anaesthetic		
	Continuous fetal monitoring until birth		
	Use of MOEWS chart		
Documentation	Timings of events/pro forma		
	Consent		
	Medication administered		
	Persons present		