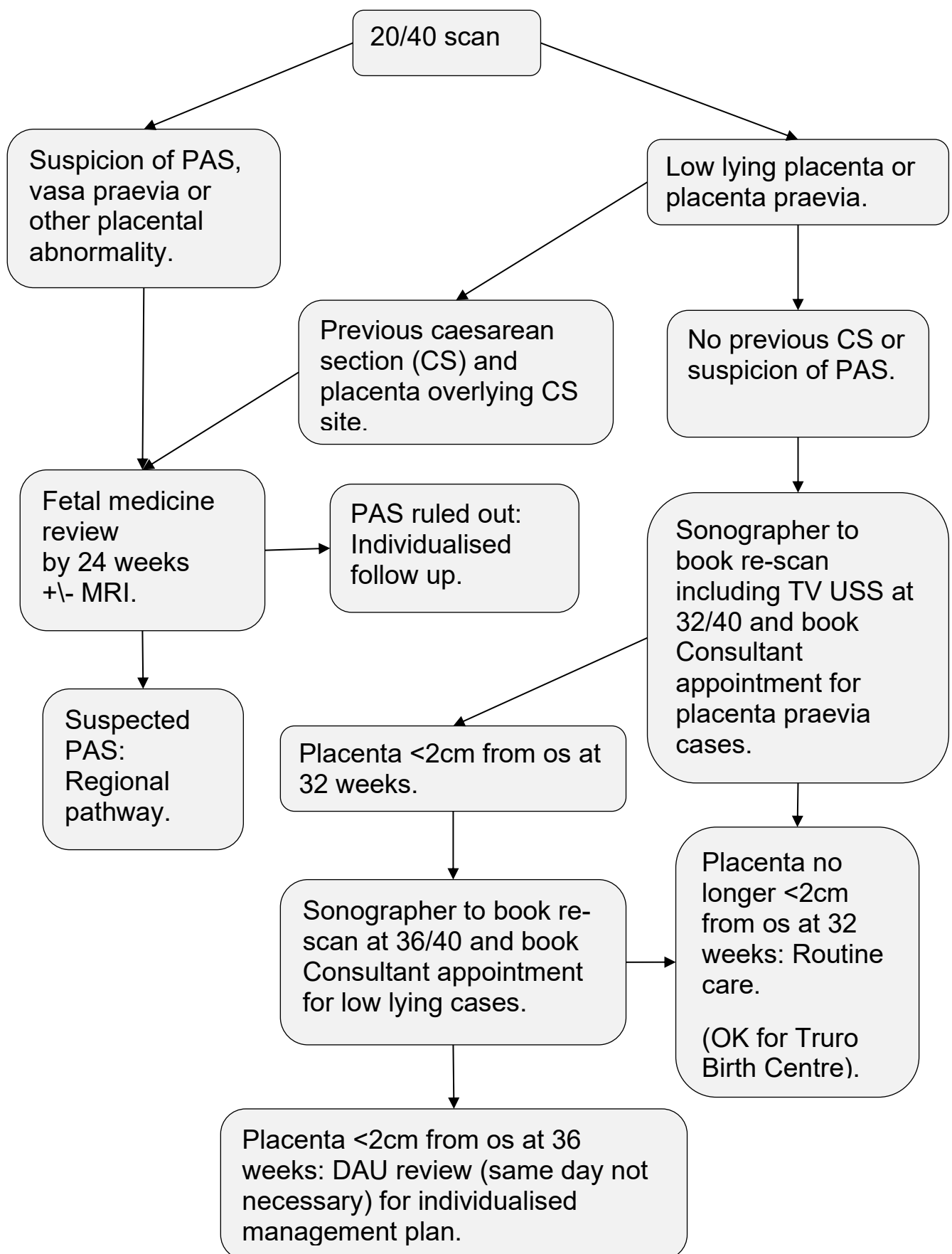


# **Placenta Praevia, Vasa Praevia and Placenta Accreta Spectrum (PAS) Clinical Guideline**

**V2.0**

**December 2025**

## Summary



# 1. Aim/Purpose of this Guideline

- 1.1. 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.
- 1.2. This version supersedes any previous versions of this document.

## **Data Protection Act 2018 (UK General Data Protection Regulation – GDPR) Legislation.**

The Trust has a duty under the Data Protection Act 2018 and UK General Data Protection Regulations 2016/679 to ensure that there is a valid legal basis to process personal and sensitive data. The legal basis for processing must be identified and documented before the processing begins. In many cases we may need consent; this must be explicit, informed, and documented. We cannot rely on opt out, it must be opt in.

Data Protection Act 2018 and UK General Data Protection Regulations 2016/679 is applicable to all staff; this includes those working as contractors and providers of services.

For more information about your obligations under the Data Protection Act 2018 and UK General Data Protection Regulations 2016/679 please see the Information Use Framework Policy or contact the Information Governance Team.

Royal Cornwall Hospital Trust      [rch-tr.infogov@nhs.net](mailto:rch-tr.infogov@nhs.net)

# 2. The Guidance

## 2.1. Definitions

- Pregnancy less than 16/40 – too early to comment on location of placenta. (Note that screening for abnormally invasive placenta at 12/40 may become a reality in the future).
- Low lying placenta: transvaginal (TV) scan shows placenta less than 20mm from internal os >16/40.
- Placenta praevia: TV scan shows placenta overlying internal os >16/40.
- Abnormally Invasive Placenta (AIP): A spectrum including placenta accreta (placental villi adherent to myometrium with deficient decidua), placenta increta (placental villi invading the myometrium) and placenta percreta. (placental villi invading through the serosa, potentially into adjacent pelvic organs).
- Vasa Praevia: Fetal vessels running unprotected through fetal membranes, particularly when near or overlying the cervix.

## **2.2. Introduction**

- 2.2.1. The incidence of placenta praevia is approximately 1:200. Risk factors include previous caesarean section, IVF, smoking and multiple pregnancy.
- 2.2.2. PAS is rarer (overall incidence 1.7/10,000 maternities) Risk factors for PAS are placenta praevia, previous PAS, previous caesarean section (CS) or uterine surgery. (E.g. myomectomy, uterine septum resection, endometrial ablation) In Vitro fertilization (IVF) and increased maternal age.
- 2.2.3. The incidence of placenta praevia and PAS is rising with increasing caesarean rates. MBRACE reports highlight the associated increasing incidence of life-threatening haemorrhage.
- 2.2.4. All women requesting CS should be informed of the future risk of abnormal placentation.
- 2.2.5. Vasa praevia is rare but has a high perinatal mortality if unrecognised.
- 2.2.6. Antenatal diagnosis and care planning are vital to reduce the risk of maternal and perinatal morbidity and mortality.

## **2.3. Diagnosis**

- 2.3.1. The placental site in relation to the cervical os should not be reported prior to 16/40, although developments in screening are now allowing for 12/40 screening for PAS in some centers.
- 2.3.2. The placental site should be documented for all women at the routine fetal anomaly scan. Women who decline an anomaly scan should still be offered a placental localisation scan as women who decline a placental localisation scan should be recommended against delivery at home and are not eligible for birth center care.
- 2.3.3. TV scanning is safe and if the location of the placenta is unclear at 20/40 a TV scan should be offered. If the placenta is less than 20mm from the internal os, the woman should be booked for a follow up TV scan at 32/40. In addition, if the placenta is praevia (overlying the internal os), a next available area Consultant Obstetric appointment should be booked.
- 2.3.4. Women with a low-lying placenta at 20/40 should be reassured that there is a 90% chance of the placenta migrating away from the lower segment with advancing gestation, but that they should report any vaginal bleeding as an emergency. The more the placenta overlies the internal os and the thicker the placental tissue over the cervix, the higher the chance of persisting low-lying placenta or placenta praevia.

- 2.3.5. Fetal medicine must review all women with suspicion of PAS, vasa praevia or other placental anomalies by 24 weeks. In addition, women with previous Caesarean Section (especially repeated lower segment CS, upper segment or classical CS) or uterine surgery are at particular risk of PAS. In these cases, if an anterior placenta is <2cm from the internal os, or overlying the caesarean scar, women should be referred to Fetal medicine. If the sonographer makes findings suggestive of PAS (see Appendix 3 poster) then these can be reported and the patient will be seen urgently in fetal medicine (e.g. next available fetal medicine clinic).
- 2.3.6. Fetal medicine will assess PAS with Ultrasound Scan (USS) and refer selectively for MRI. Appendix 3 – 10 ultrasound signs of placenta accreta outlines the potential signs. If PAS is suspected, referral will be made to the regional PAS network and the RCHT PAS lead informed.
- 2.3.7. If the placenta remains low at 32/40, women should be counselled to present urgently with any vaginal bleeding. Women who were not referred to their area Consultant Obstetric clinic after the 20/40 scan (i.e., those whose placenta was low lying but not placenta praevia) should be now referred for a next available appointment.
- 2.3.8. Women with a low-lying placenta at 32/40 should have a further scan at 36/40. If the placenta remains low at 36/40, refer to Day Assessment Unit (DAU) for prompt assessment (same day not required if asymptomatic) and an individualised management plan. Further imaging at term may be indicated.
- 2.3.9. Clinicians should be aware of the possibility of placenta praevia at any presentation with vaginal bleeding in late pregnancy and should consider re-scanning women with unexplained bleeding to check the placental location. In addition, clinicians should be aware that in 10% of cases of placenta praevia presenting with bleeding, a co-existing abruption is occurring (see obstetric haemorrhage guideline).

## **2.4. Scanning for placenta praevia and low-lying placenta**

- 2.4.1. If there is uncertainty as to whether the placenta is low lying at 20/40, TV scan should be performed.
- 2.4.2. At scans at later gestations, abdominal scanning is adequate for cases where the placenta is clearly covering the internal os. In all other cases, TV scan is required to accurately measure the distance of the leading placental edge from the os.
- 2.4.3. The position of the fetal presenting part in relation to the low placenta should be described and the thickness of the placenta below the presenting part measured and reported.
- 2.4.4. A representative image(s) should be captured and stored to enable the clinician to assess the appropriateness of trial of vaginal birth.

## **2.5. Advice for women**

- 2.5.1. Detailed discussion is only necessary once a woman requires referral to a Consultant clinic or she has presented with bleeding.
- 2.5.2. For placenta praevia, this appointment should be after diagnosis is made at 20/40 and, for a persistently low-lying placenta, after diagnosis at 32/40.

### **2.5.3. Asymptomatic Women**

- 2.5.3.1. Women and their partners / carers should be counselled about the risks including preterm delivery, caesarean section and obstetric haemorrhage.
- 2.5.3.2. Care at home is usually appropriate given adequate safety precautions such as ready access to hospital, having someone available to help them if necessary and ability to call for help if needed.
- 2.5.3.3. Women should be counselled against penetrative sexual intercourse and vigorous physical exercise.

### **2.5.4. Symptomatic women**

- 2.5.4.1. Women who present with bleeding are likely to be at higher risk for major haemorrhage and should be initially managed as an inpatient.
- 2.5.4.2. Subsequent care should be individualised and depends on factors such as bleeding history, expected time taken to reach the hospital in case of emergency, blood test results and the woman's acceptance of donor blood.
- 2.5.4.3. Cases of large bleeds managed conservatively or multiple presentations with bleeding will usually be admitted until delivery.
- 2.5.4.4. If vasa praevia is confirmed at 32/40, women should have a discussion about admission from 32 weeks given the need for very rapid caesarean section in case of any vaginal bleeding.

## **2.6. Care planning**

- 2.6.1. Women should have pro-active identification and management of anaemia in line with [Anaemia and iron deficiency: Diagnosis and Treatment throughout Pregnancy, Labour and Postpartum Period Clinical Guideline](#).
- 2.6.2. Women with placenta praevia after 20/40 and those with low lying placenta after 32/40 should have an antenatal review by their area Obstetric Consultant.
- 2.6.3. Antenatal consent should clarify the risks and patient wishes regarding blood product transfusion and surgical management of haemorrhage including hysterectomy.

- 2.6.4. Anaesthetic review in the high-risk anaesthetic clinic at 32 weeks is required as part of the routine assessment of women who are requiring or requesting caesarean section. It is not routinely needed for trial of vaginal birth.
- 2.6.5. When PAS continues to be suspected after fetal medicine review then they should be referred to the regional network via the referapatient website (Appendix 3). The departmental PAS lead should also be informed. Correspondence from the regional PAS imaging (including MRI reports) should be uploaded as attachments to the electronic maternity record when received on the referapatient website.
- 2.6.6. Women with vasa praevia need an individualised care plan.

## **2.7. Delivery**

### **2.7.1. Trial of vaginal delivery**

- 2.7.1.1. An aim for vaginal delivery may be appropriate for women with a low-lying placenta. The discussion and decision must be individualised taking into account past history, engagement of the fetal head, the position of the head in relation to the low placenta, the distance and thickness of the leading edge from the internal os and maternal wishes. This discussion must be with a consultant.
- 2.7.1.2. The Royal College of Obstetrics and Gynaecology (RCOG) does not subcategorise low lying placenta, but the Society of Obstetricians and Gynaecologists of Canada (SOGC) guideline suggests a trial of labour is an option when the placenta 10-20mm from the os and to consider the trial of labour if <10mm in carefully selected cases (SOGC guideline 402, 2020). The offer of the option to have a trial of labour when the placenta is <20mm should always be made with the input of a consultant.

### **2.7.2. Caesarean section**

- 2.7.2.1. Women who have not received steroids during emergency presentations should be offered steroids prior to delivery by caesarean section if <34/40. Individualise the offer of steroids between 34-37 weeks, taking into account the women's views and other factors (e.g. FGR).
- 2.7.2.2. Caesarean section in the presence of low-lying placenta or placenta praevia, whether elective or emergency, should be attended by the consultant obstetrician and an experienced anaesthetist.
- 2.7.2.3. Early discussion with the blood bank should ensure adequate blood products are available. Regional anaesthesia may be appropriate, but women should be advised of the higher chance of conversion to general anaesthesia.

- 2.7.2.4. Pre-operative Ultrasound Scan (USS) should be considered to localise the placenta in order to optimise the position of the lower segment incision.
- 2.7.2.5. The cord should be clamped promptly if the placenta is incised.
- 2.7.2.6. In cases of suspected PAS where delivery is required at RCHT in an emergency, this will require the anaesthetic and obstetric consultant's presence for the caesarean. There should be consideration of discussion with, for awareness, or a request to attend the PAS lead, a second O&G consultant, gynaecology oncologist, urologist, and vascular surgeon. The PAS lead is not available on call 24/7 for these cases but is happy to be contacted and would attend if available and safe to do so. The staff present and informed will be individualised based on the oncall team's experience, previous scan/MRI findings and the urgency of the clinical circumstances. Top tips for management of suspected PAS are included in Appendix 4.

## 2.8. Timing of delivery

There is little high-quality evidence to guide timing of delivery (RCOG guidance quotes case-control and cohort study level C evidence) and there are differing opinions nationally and internationally. The RCHT consultant body recognises the shift to earlier delivery advised by the latest RCOG guidance but supports SOGC guidance for slightly later elective delivery in view of the increasing emphasis on the developmental harms of late preterm and early term deliveries. The recommended gestations are as follows:

- Asymptomatic placenta praevia and low-lying placenta not suitable for a trial of labour: 37+0-37+6 weeks. Consider CS at 36+0 -36+6 if there are risk factors for preterm birth (e.g. history of preterm birth, short cervix on TVUSS) or other factors where the risks of unscheduled bleeding are greater (e.g. social/geographical issues).
- Symptomatic low-lying placenta / placenta praevia: 36+0-36+6 weeks. If bleeding has been heavy or recurrent, or there is a history of preterm birth, or social/geographical issues, earlier delivery may be indicated (e.g. from 34+0 weeks).
- Discussions and shared decision making regarding the timing of delivery should acknowledge the uncertainties surrounding the optimal gestation.
- PAS: Delivery plan advised by MDT planning of regional PAS centre.
- Vasa Praevia: 34-36 weeks but at any time if the diagnosis is confirmed and pre-labour membrane rupture, labour or bleeding should occur.

### 3. Monitoring compliance and effectiveness

| Information Category                        | Detail of process and methodology for monitoring compliance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Element to be monitored                     | Compliance to the guideline.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Lead                                        | Audit midwife.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Tool                                        | <ol style="list-style-type: none"> <li>1. If anomaly scan declined, was placental localisation scan offered?</li> <li>2. At 20/40, if the placenta is &lt;2cm from os and previous LSCS or uterine surgery, was the woman referred to fetal medicine?</li> <li>3. If placental location uncertain at 20/40, was a TV scan offered?</li> <li>4. On diagnosis of placental abnormality, is there documented discussion of the risk?</li> <li>5. If admitted for PV bleed, has placenta praevia been ruled out prior to examination?</li> <li>6. If Vasa Praevia, was admission offered from 32/40?</li> <li>7. If low-lying placenta (&lt;2cm to os at 32/40) was a Consultant appointment made?</li> <li>8. If decision for a trial of vaginal delivery, where the risks and benefits discussed and documented by a consultant obstetrician?</li> </ol> |
| Frequency                                   | 3 yearly.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Reporting arrangements                      | Maternity Audit Review Team meeting.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Acting on recommendations and Lead(s)       | Actions will be considered at Patient Safety where leads will be assigned. These will be added to the action plan and monitored through Patient Safety.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Change in practice and lessons to be shared | As above- through Patient Safety.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

### 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                                                                                                                                        |
|--------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Document Title:</b>                                                   | Placenta Praevia, Vasa Praevia and Placenta Accreta Spectrum (PAS) Clinical Guideline V2.0                                                                  |
| <b>This document replaces (exact title of previous version):</b>         | Placenta Praevia, Vasa Praevia and Abnormally Invasive Placenta Clinical Guideline V1.1                                                                     |
| <b>Date Issued/Approved:</b>                                             | December 2025                                                                                                                                               |
| <b>Date Valid From:</b>                                                  | December 2025                                                                                                                                               |
| <b>Date Valid To:</b>                                                    | December 2028                                                                                                                                               |
| <b>Directorate/Department responsible (author/owner):</b>                | Mr Richard Keedwell, Obstetric Consultant                                                                                                                   |
| <b>Contact details:</b>                                                  | 01872 255036                                                                                                                                                |
| <b>Brief summary of contents:</b>                                        | This document gives guidance to clinicians to aid care planning when caring for women with placenta praevia, vasa praevia and abnormally invasive placenta. |
| <b>Suggested Keywords:</b>                                               | Placenta praevia, vasa praevia, low-lying placenta.                                                                                                         |
| <b>Target Audience:</b>                                                  | <b>RCHT:</b> Yes<br><b>CFT:</b> No<br><b>CIOB ICB:</b> No                                                                                                   |
| <b>Executive Director responsible for Policy:</b>                        | Chief Medical Officer                                                                                                                                       |
| <b>Approval route for consultation and ratification:</b>                 | Maternity Guidelines Group                                                                                                                                  |
| <b>Manager confirming approval processes:</b>                            | Caroline Chappell                                                                                                                                           |
| <b>Name of Governance Lead confirming consultation and ratification:</b> | Michael Cross                                                                                                                                               |
| <b>Links to key external standards:</b>                                  | None                                                                                                                                                        |
| <b>Related Documents:</b>                                                | None required                                                                                                                                               |
| <b>Training Need Identified?</b>                                         | No                                                                                                                                                          |

| Information Category                                                             | Detailed Information              |
|----------------------------------------------------------------------------------|-----------------------------------|
| 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                                                                       |
|---------------|----------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| December 2022 | V1.0           | Initial issue                                                                    | Rob Holmes, Consultant Obstetrician.<br>Mr. Richard Keedwell, Consultant Obstetrician |
| June 2024     | V1.1           | Partial Update to flowchart and 2.3.5 with updating gestation in line with NICE. | Mr. Richard Keedwell, Consultant Obstetrician                                         |
| December 2025 | V2.0           | Full Update including updated terminology.                                       | Mr. Richard Keedwell, Consultant Obstetrician                                         |

**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](mailto:rcht.inclusion@nhs.net)

| Information Category                                                                                                                | Detailed Information                                                                       |
|-------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| <b>Name of the strategy/policy/proposal/service function to be assessed:</b>                                                        | Placenta Praevia, Vasa Praevia and Placenta Accreta Spectrum (PAS) Clinical Guideline V2.0 |
| <b>Directorate and service area:</b>                                                                                                | Obstetrics and Gynaecology                                                                 |
| <b>Is this a new or existing Policy?</b>                                                                                            | Existing                                                                                   |
| <b>Name of individual completing EIA</b><br>(Should be completed by an individual with a good understanding of the Service/Policy): | Catherine Wills, Maternity Guidelines Midwife                                              |
| <b>Contact details:</b>                                                                                                             | 01872 255019                                                                               |

| Information Category                                                                                                                  | Detailed Information                                                                                          |
|---------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| <b>1. Policy Aim - Who is the Policy aimed at?</b><br>(The Policy is the Strategy, Policy, Proposal or Service Change to be assessed) | Clinicians caring for women with a diagnosis of placenta praevia, vasa praevia and placenta accreta spectrum. |
| <b>2. Policy Objectives</b>                                                                                                           | To ensure all women with placental concerns are given the appropriate level of care.                          |
| <b>3. Policy Intended Outcomes</b>                                                                                                    | Safe delivery of babies with minimal morbidity for women with abnormal placentas.                             |
| <b>4. How will you measure each outcome?</b>                                                                                          | Compliance Monitoring Tool.                                                                                   |
| <b>5. Who is intended to benefit from the policy?</b>                                                                                 | Service Users/Clinical Staff.                                                                                 |

| Information Category                                                                     | Detailed Information                                                                                                                                                                             |
|------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>6a. Who did you consult with?</b><br>(Please select Yes or No for each category)      | <ul style="list-style-type: none"> <li>Workforce: Yes</li> <li>Patients/visitors: No</li> <li>Local groups/system partners: No</li> <li>External organisations: No</li> <li>Other: No</li> </ul> |
| <b>6b. Please list the individuals/groups who have been consulted about this policy.</b> | <b>Please record specific names of individuals/ groups:</b><br>Maternity Guidelines Group.                                                                                                       |
| <b>6c. What was the outcome of the consultation?</b>                                     | Guideline Approved.                                                                                                                                                                              |
| <b>6d. Have you used any of the following to assist your assessment?</b>                 | <b>National or local statistics, audits, activity reports, process maps, complaints, staff or patient surveys:</b><br>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 |
|-----------------------------------------------------------------------------------------------------|-------------|-----------|
| <b>Age</b>                                                                                          | No          |           |
| <b>Sex</b> (male or female)                                                                         | No          |           |
| <b>Gender reassignment</b><br>(Transgender, non-binary, gender fluid etc.)                          | No          |           |
| <b>Race</b>                                                                                         | No          |           |
| <b>Disability</b> (e.g. physical or cognitive impairment, mental health, long term conditions etc.) | No          |           |
| <b>Religion or belief</b>                                                                           | No          |           |
| <b>Marriage and civil partnership</b>                                                               | 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, Maternity Guidelines 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. 10 Ultrasound Signs of Placenta Accreta Spectrum

Used with permission of owner R. Kerr (Obstetric Consultant).

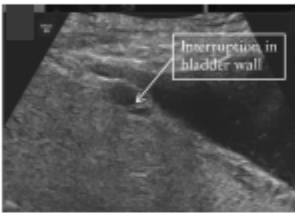
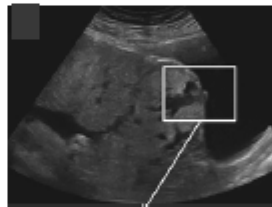
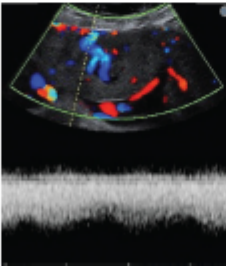
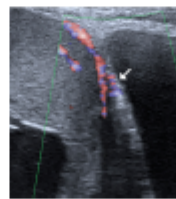
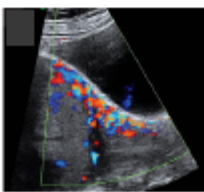
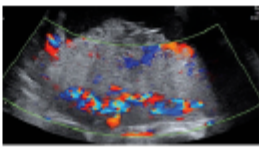


**South West Fetal Medicine**  
Operational Delivery Network

### 10 Ultrasound Signs of Placenta Accreta Spectrum



South West Placenta Accreta Spectrum Network

|                                                                                                                                                                                                                          |                                                                                                                                                                                                                                      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <h4>1. Loss of Clear Zone</h4>  <p>Loss, or irregularity, of hypoechoic plane in myometrium underneath placental bed ("clear zone")</p> | <h4>2. Placental Bulge</h4>  <p>Deviation of uterine serosa away from expected plane, caused by placental bulge</p>                                |
| <h4>3. Bladder Wall Interruption</h4>  <p>Loss or interruption of bright bladder wall</p>                                              | <h4>4. Myometrial Thinning</h4>  <p>Thinning of myometrium overlying placenta to &lt; 1 mm or undetectable</p>                                    |
| <h4>5. Abnormal Placental Lacunae</h4>  <p>Presence of numerous lacunae often containing turbulent flow</p>                           | <h4>6. Focal Exophytic Mass</h4>  <p>Placental tissue seen breaking through uterine serosa and extending beyond it</p>                           |
| <h4>7. Feeding Vessels</h4>  <p>Vessels with high blood flow leading from myometrium into placental lacunae</p>                       | <h4>8. Bridging Vessels</h4>  <p>Vessels appearing to extend from placenta, across myometrium and beyond serosa into bladder or other organs</p> |
| <h4>9. Uterovesical Hypervascularity</h4>  <p>Colour Doppler signal seen between myometrium and posterior bladder wall</p>            | <h4>10. Sub Placental Vascularity</h4>  <p>Striking amount of colour Doppler signal seen in placental bed</p>                                    |

v1 2025

Adapted from: Collins et al. 2015. Proposal for standardized ultrasound descriptors of abnormally invasive placenta (AIP). ISUOG

## **Appendix 4. Top Tips for Emergency CS in Suspected Placenta Accreta Spectrum (adapted for RCHT from document shared by Southwest Placenta Accreta Spectrum (SWPAS) Network.**

### **Pre-operative**

- Contact Consultant anaesthetist and gynae consultant on call.
- Consider speaking to urologist/vascular surgeon on call.
  - Dependent on how extensive PAS.
- Request 4 units crossed matched blood to CDS fridge and instigate Code Red major haemorrhage protocol if actively bleeding.
- Ensure gynaecology hysterectomy set available, including ureteric slings.
- If possible, have one member of team to perform cell salvage, someone else to swab wash and use 2 cell salvage machines so that when processing you can continue salvage with the other.

### **Intra-operative**

- Team brief and WHO checklist.
- Appropriate preop resuscitation with anaesthetist if actively bleeding.
- Consider use of Lloyd-Davis positioning with drape to help estimate vaginal blood loss and to allow easier access of second assistant.
- Insert catheter with 20ml in balloon to distend bladder further to aid identification.
- Identify separate member of scrub team for 'swab washing' to maximize cell salvage yield.
- Consider USS prior to starting to decide location of uterine incision.
- Don't delay if actively bleeding.
- Maylard abdominal incision.
- Longitudinal/classical uterine incision attempting to avoid placenta if possible.
- Deliver fetus through fundus to avoid incising placenta.
- **Do not** give uterotonics.
- **If no obvious rapid separation of placenta close uterus and proceed straight to hysterectomy.**
- Identify ureters before starting hysterectomy and mark with ureteric slings.

- Don't do this and delay proceeding to hysterectomy if haemostasis is the number one priority if actively bleeding.
- Ensure clear communication by surgeon with anaesthetist.
  - If you think you are going to cause increased bleeding with your next step, it may be best to pause to give blood/Pre-fluid load first etc.
- Proceed to hysterectomy.
  - As removing the large bulky uterus is the priority to aid visualization and to help haemostasis then clamp and cut down to as low as able to visualize on both sides WITHOUT tying pedicles to speed the removal of the uterus. Removing the uterus as quickly as possible will reduce the bleeding and aid visualizing the lower segment/vault and the potential extending placenta into pelvic sidewall or bladder. As the placenta is usually implanted low you will need to perform a total hysterectomy to ensure haemostasis. However, you may need to do a subtotal first to remove the uterus to give you a better view for the rest of the procedure. After removal of uterus tie pedicles in usual manner.
  - If despite surgical management unable to control haemorrhage, consider lifesaving manoeuvres such as packing abdomen and aortic compression in discussion with your anaesthetist.
  - If bladder involvement with vascular piece of placental tissue – likely better to excise the area of abnormal tissue prior to suturing to reduce the potential risk of fistula formation.
- Close the sheath with loop PDS.
- Change catheter as balloon maybe damaged due to increased volume just put in 10mls as usual now. Consider vaginal cleansing.
- Make post op plan with the multiprofessional team.

## **Post–Op**

- Enhanced care as per Major Haemorrhage care.
- If haematuria or concerns regarding ureters, consider imaging.
- Catheter to stay in at least 24hrs.
- 24hrs antibiotic prophylaxis.
- Discuss with ICU team if any ongoing concerns or transfer required.
- VTE prevention (LMWH, Flowtrons).

## Appendix 5. Emergency Anaesthetic Management of Placenta Accreta Spectrum (adapted from North Bristol NHS Trust).

This would usually only occur where there is a threat to life of either mother or baby and the mother isn't safe for intrauterine transfer to North Bristol NHS Trust. It requires 2 anaesthetists including a consultant. Anticipate a major haemorrhage.

### Preparation

- Cell salvage (250ml processing bowl). Ideally required a 2nd ODP to process rapidly (often on emergency mode). Swab washing is used to maximise yield so use 2 suctions on one machine with a clamp on whichever line you aren't using. We don't routinely collect vaginal blood.
- Level one fluid warmer.
- Bair hugger.
- A-line.
- Crossmatch 4 units RCC. If bleeding before surgery put out Major Haemorrhage Protocol Call before surgery commences.

### Anaesthetic

- Left lateral tilt.
- Given emergency nature GA usually required.
- IVA 2 X 16G ideally and a-line.
- Midwife to insert catheter, cleaned and draped prior to induction.
- Lloyd Davis position with under buttock drape to aid blood loss monitoring.
- RSI after sodium citrate.
- No fentanyl until after baby delivered (use 50:50 N2O O2).
- Incision most likely vertical midline (most likely CS hysterectomy).
- Opiate after delivery of baby.
- **Do not administer uterotonics.**
- Likely significant and rapid blood loss.
- Activate Major Haemorrhage Protocol. Take 2 Coag samples. Ask someone to hand deliver urgent ROTEM to haematology labs. Protocols are in anaesthetic room. Transfusion team will help guide need for clotting factors.
- Maintain good communication with surgical team.

## **End of procedure**

- Individualise - Delivery Suite vs. discussion with intensive care unit.
- Post op analgesia - IV morphine in theatre, IV paracetamol, PCA, TAP blocks, avoid NSAIDs.
- VTE Prevention (Flowtrons, LMWH).