



## Guidelines for Anti D

<b>Document Reference No:</b>	PTHB / MAT 042	
<b>Version No:</b>	4	
<b>Issue Date:</b>	June 2023	
<b>Review Date:</b>	May 2026	
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<b>Approved By:</b>	Women and Children's Policies and Procedures Governance Group	
<b>Approval Date:</b>	15/5/2023	
<b>Document Type:</b>	Guideline	Clinical
<b>Scope:</b>	PTHB Midwives	

The latest approved version of this document is online.  
If the review date has passed please contact the Author for advice.

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Title: Guidelines for Anti-D  
Reference No: PTHB / MAT 042  
Status: Final

## Version Control

<b>Version</b>	<b>Summary of Changes/Amendments</b>	<b>Issue Date</b>
1	Initial Issue	May 2017
4	Full review – changes to terminology throughout	June 2023

## Engagement & Consultation

### Key Individuals/Groups Involved in Developing this Document

Role / Designation
Antenatal Screening Governance Lead

### Circulated to the following for Consultation

Date	Role / Designation
13/4/2023	Powys Midwives
13/4/2023	Members of the Women and Children's Guideline Group
13/4/2023	Named Midwife Safeguarding
13/4/2023	PTHB Midwifery Leadership and Management team
13/4/2023	Programme Coordinator Antenatal Screening Wales

### Groups Approved at

Date	Group
9/5/2023	Maternity Guidelines Group
15/5/2023	Women and Children's policies and procedures group

### Evidence Base

**Please list any National Guidelines, Legislation or Health and Care Standards relating to this subject area?**

Antenatal screening Wales standards (2019)  
NICE Guidelines- Routine anti-D prophylaxis for women who are rhesus D negative (Aug 2008)  
NICE 2021  
<https://www.nice.org.uk/guidance/ng201/chapter/recommendations>

## Impact Assessments

Equality Impact Assessment Summary					
	No impact	Adverse	Differential	Positive	Statement
					Please remember policy documents are published to both the <b>intranet</b> and <b>internet</b> .
<b>Age</b>	X				The version on the internet must be translated to Welsh.
<b>Disability</b>	X				
<b>Gender reassignment</b>	X				
<b>Pregnancy and maternity</b>				X	
<b>Race</b>	X				
<b>Religion/ Belief</b>	X				
<b>Sex</b>	X				
<b>Sexual Orientation</b>	X				
<b>Marriage and civil partnership</b>	X				
<b>Welsh Language</b>	X				
<b>Human Rights</b>	X				
Risk Assessment Summary					
<p><b>Have you identified any risks arising from the implementation of this policy / procedure / written control document?</b></p> <p>No risks identified</p>					
<p><b>Have you identified any Information Governance issues arising from the implementation of this policy / procedure / written control document?</b></p> <p>As above</p>					
<p><b>Have you identified any training and / or resource implications as a result of implementing this?</b></p> <p>Nil additional required</p>					

## 1 Introduction

The purpose of the provision of Anti D is to prevent babies of RhD negative women developing haemolytic disease of the newborn (HDFN).

Human red blood cells carry many antigens on their surfaces. The most important of these antigens belong to the ABO system and the Rh system. The D antigen (sometimes referred to as Rhesus D negative, or RhD-) is the most important antigen of the Rh system. People with the D antigen are referred to as RhD positive, and those without it are RhD negative. A baby inherits its blood type from both parents. Therefore, a mother who is RhD negative can carry a baby who is RhD positive.

During pregnancy small amounts of fetal blood can enter the maternal circulation an event called feto-maternal haemorrhage (FMH). The presence of fetal D positive cells in her circulation can cause a mother who is RhD negative, to mount an immune response, producing a template for the production of antibodies as well as small amounts of antibodies against the D antigen (anti-D antibodies).

The maternal antibodies produced following this sensitisation can attack the red blood cells of any subsequent RhD positive babies in utero, causing HDFN.

The risk of sensitisation can be reduced by administering anti-D immunoglobulin to women in situations in which FMH is likely (after delivery, miscarriage, abortion, invasive procedures or abdominal trauma). Anti-D binds to the fetal antigen and minimises its effect.

In addition, anti-D immunoglobulin is recommended to be administered routinely in the third trimester as prophylaxis against small amounts of FMH that can occur in the absence of observable sensitising events.

## 2. Objective

- Routine antenatal anti-D prophylaxis (RAADP) is recommended as a treatment option for all pregnant women who are RhD negative and who are not known to be sensitised to the D antigen.
- Administration of anti-D is recommended following any potentially sensitising events and following the birth of a D positive baby to a non-sensitised D negative mother.

## 3. Definitions

- **PTHB** – Powys Teaching Health Board
- **DGH** – District General Hospital
- **RhD** – (Rh- / Rhesus Negative)
- **RAADP** - Routine antenatal anti-D prophylaxis

## **4. Role / Responsibilities**

### **4.1 Head of Midwifery and Sexual Health**

The Head of Midwifery and Sexual Health must:

- Ensure all staff read and understand this procedure.
- Arrange regular review to monitor compliance with this procedure.

### **4.2 Assistant Head of midwifery and Operational Team Leads**

The Assistant Head of Midwifery and Operational Team Leads must:

- Ensuring dissemination of this document to all relevant staff
- Liaising with District General Hospitals (DGH) to feedback where care has fallen outside of this guideline

### **4.3 Women and Children's Risk and Governance Lead**

The Women and Children's Risk and Governance Lead has responsibility for:

- Monitoring review of incidents in relation to content of this document

### **4.5 Midwives**

All midwives working in the maternity services have responsibility for:

- Reading and being familiar with contents of this document
- Midwives are responsible for ensuring that all Rh D negative women receive verbal and written information about antenatal and postnatal anti-D prophylaxis and have the opportunity to discuss this treatment with a midwife in the antenatal period.
- Midwives are responsible for carrying adrenaline 1:1000units; to know the correct dosages in the event of an anaphylactic reaction and attend an annual anaphylaxis and maternal resuscitation updates.
- Midwives must ensure that appropriate requisition, administration, and audit control of anti-D immunoglobulin occurs.

## 5. Antenatal Care in Powys

- All women should be offered antenatal screening for blood group and antibodies in pregnancy at booking.
- If the Woman is identified as Rh D negative the midwife will refer her to “Your blood group and pregnancy” ASW (2022) website <https://phw.nhs.wales/services-and-teams/screening/antenatal-screening-wales/information-resources/leaflets/antenatal-screening-tests/section-2-your-blood-group-and-pregnancy/>
- All women to be informed of their results as soon as it's available.
- It is best practice to inform D negative women of their result early so that they can seek midwifery advice if they have a potential sensitising event.
- The woman's RhD status must be clearly documented in the antenatal handheld records and hospital records to alert other members of the multi-disciplinary team.
- A hard copy serology result form MUST be filed in the antenatal handheld records. Midwives must not administer anti-D without access to this serology form.
- All RhD negative women to be offered RAADP (for administration at 28 weeks gestation) unless the RhD negative woman is already known to be sensitised, when a referral to the woman's transferring District General Hospital (DGH) should be made.

### 5.1 Potentially sensitising events

After **any** potential sensitising event in pregnancy the midwife will refer the woman to her transferring DGH for administration of anti-D and further investigations.

Potentially sensitising events include:

- Miscarriage/threatened miscarriage
- Antepartum haemorrhage
- Any abdominal trauma (direct/indirect, sharp/blunt, open/closed)
- Amniocentesis
- Cordocentesis
- Other in-utero therapeutic intervention/surgery
- Chorionic villus sampling
- Ectopic pregnancy
- External cephalic version
- Intrauterine death and still birth
- Termination of pregnancy
- Evacuation of molar pregnancy
- Delivery (see section 6 for Powys Births)



- Intra op cell salvage

#### Potentially sensitising events in pregnancies < 12 weeks gestation

- The maternal blood group and antibody screen must be performed to check D group and check for presence of immune anti-D.
- A kleihauer test is not required.
- In cases of spontaneous complete miscarriage confirmed by scan where the uterus is not instrumented, or where mild painless vaginal bleeding occurs before 12 weeks, prophylactic anti-D is **not** required.
- 500iu anti-D is indicated following an ectopic pregnancy, molar pregnancy, therapeutic termination of pregnancy and in some cases of uterine bleeding where this is repeated, heavy or associated with abdominal pain.

#### Potentially sensitising events 12-20 weeks' gestation

- The maternal blood group and antibody screen must be performed to check D group and check for presence of immune anti-D.
- A kleihauer test is not required.
- 500iu anti-D is indicated for any potentially sensitising event listed above within 72 hours of event.
- RhD negative women presenting with continual uterine bleeding between 12- and 20-weeks' gestation should be given at least 500iu Anti-D Ig at a minimum of 6 weekly intervals.

#### Potentially sensitising events from 20 weeks gestation to term

- The maternal blood group and antibody screen must be performed to check D group and check for presence of immune anti-D.
- A kleihauer test is needed
- For any sensitising event listed above, RhD negative previously non-sensitised women should receive a minimum dose of 500iu anti-D Ig within 72 hours of event.
- Additional doses may be necessary if the FMH exceeds that covered by the standard dose.
- In the event of continual uterine bleeding which is clinically judged to represent the same sensitising event, with no features suggestive of a new presentation or a significant change in pattern or severity of bleeding, such as the presence of abdominal pain or another clinical presentation, a minimum dose of 500iu anti-D Ig should be given at 6 weekly intervals. In the event of further bleeding, estimation of FMH should be

carried out of 2 weekly intervals. If the 2 weekly FMH test shows the presence of fetal cells, additional anti-D Ig should be administered to cover the volume of FMH.

- The additional dose should be offered regardless of the presence/absence of passive anti-D in maternal plasma, and the FMH retested after 48-72 hours.
- If new symptoms develop suggestive of a sensitising event in addition to continual uterine bleeding, then it should be managed as an additional sensitising event, with an appropriate dose of additional anti-D and estimation of FMH.

### 5.2 Administration of anti-D at 28 weeks gestation

- At 28 weeks, the midwife will obtain verbal consent to take bloods for red cell antibodies. **This blood test must be taken PRIOR to administration of prophylactic anti-D Immunoglobulin.**
- If anti-D has been administered to the woman in the antenatal period following a potentially sensitising event, this information **must** be included (including the date and dose administered) on the laboratory request form, as this may affect the interpretation of the results
- The midwife will offer RAADP (Rhophylac 300: 1500IU) and obtain verbal consent for administration. Use of routine antenatal anti-D prophylaxis should not be affected by previous anti-D prophylaxis for a sensitising event in the same pregnancy. Likewise postpartum anti-D prophylaxis should not be affected by previous routine antenatal anti-D prophylaxis or antenatal anti-D following a sensitising event.

**NICE recommends at least 250iu however in Wales only the supply of 500iu is available (SHOT, 2021). Therefore, 500iu is given as per requisition.**

<b>If there is a potentially sensitising event (PSE) at:</b>		
<b>&lt; 12 weeks</b>	<b>12 – 20 weeks</b>	<b>20+ weeks</b>
At least 500iu Anti-D given if:  Surgical Intervention Termination of Pregnancy (medical or surgical) Unusually heavy bleeding	At least 500iu Anti-D given, No Kleihauer test required	Maternal blood sample taken for Kleihauer testing  At least 500iu Anti-D given  Further anti-D, if indicated by Kleihauer results

Unusually severe pain Unsure of gestation		
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PSEs include: Any PV Bleeding; blunt abdominal trauma (eg seatbelt injury); invasive antenatal testing (amnio, CVS); external cephalic version (attempted & successful); miscarriage; TOP; ERPC; diagnosis of intra-uterine death; stillbirth; ectopic pregnancy.

To be effective, Anti-D should be always be given within 72 hours of PSE, however it may have some effect if given within 10 days.

If you are unsure of gestation, always assume higher gestation when planning care.

### 5.3 Minimum patient identifiers to be used

All Communication and patient checks need to include minimum identifiers. It is not sufficient just to confirm the woman's name, minimum patient identifiers must be established before taking blood and prior to administration of anti-D immunoglobulin.

The minimum patient identifiers to be used are:

- Full name
- Address (minimum 1<sup>st</sup> line)
- Date of Birth
- Hospital or NHS number.

The patient drug information leaflet that accompanies the anti-D should be offered to the woman. See Appendix 1 for care pathway.

### 5.4 Anti-D immunoglobulin administration in Powys

- Intramuscular anti-D Immunoglobulin is best given into the deltoid muscle as injections into the gluteal region often only reach the subcutaneous tissues.
- The place of antenatal appointments to be discussed with the woman – it is recommended that a woman who has had anti-D

administered is observed for 20 minutes following the injection due to the low risk of anaphylaxis.

- Ensure the midwife has access to Adrenaline.
- Following administration women should be made aware of the signs and symptoms of hyper-sensitivity and anaphylaxis and informed they should contact a health professional if any symptoms become evident.

### **5.5 Requisition and supply of routine antenatal anti-D prophylaxis**

Women who are identified as RhD negative and have consented to RAADP will have their names recorded on the Powys anti-D requisition form (Appendix 3).

An All-Wales Blood request form to be completed.

A copy of the woman's booking serology bloods indicating blood group and antibody status to be attached to the request form.

Send the completed All Wales blood request form and a copy of booking serology form to:

Blood Transfusion laboratory  
Pathology  
Nevill Hall Hospital  
Abergavenny  
NP7 7EG

A minimum of two routine working days' notice is required by the issuing blood bank.

### **5.6 Transport and receipt of anti-D at PTHB Birth Centres**

The anti-D (Rhophylac 300: 1500iu) will be transported from the Nevill Hall blood bank in transport boxes.

These transport boxes are validated for transport for 4 hours - this will keep them within range on the transport vehicle.

The anti-D will be assigned to each patient and will be individually packed along with the appropriate traceability label within a plastic bag.

On receipt of anti-D from supplying blood bank, the accepting midwife/relevantly trained personnel must ensure that the anti-D supplied matches the Powys requisition/receipt form. If there are any discrepancies the supplying blood bank must be notified. All anti-D will be supplied on a named woman basis; under no circumstances is

anti-D supplied for a specific woman to be administered to a different woman.

### **5.7 Storage**

- The individual patient anti-D packs may be stored at an ambient room temperature not exceeding 25°C.
- When they arrive in the clinical area, they can be kept in the box, or at room temperature until given on the same day.
- If not used after this period, the anti-D must be quarantined to prevent use and arrangements made for their return to the blood bank at Nevill Hall for disposal.
- Empty transport boxes must be returned with all packaging to Nevill Hall Hospital directly after product removal.

### **5.8 Documentation at time of RAADP administration in Powys**

- Anti-D supplied by the issuing blood bank to a specific named woman will have a corresponding traceability label attached containing full patient details. The traceability label is in two parts.
- The 'pink sticker' part of the label must be signed and dated and placed in the woman's handheld records.
- This 'blue portion' of the label must be returned to the blood bank at the earliest opportunity as confirmation of the anti D administration. Sign, date, time and tick the 'commenced' box of the 'blue portion' and return within 4 days of administration by first class post.
- Record administration on local request/receipt log (Appendix 3)
- Record administration in hospital records (tracer).
- Documentary evidence that traceability label has been returned to issuing blood bank must be maintained. (Appendix 3)

## **6. Postnatal Anti-D administration in Powys**

- After the birth of a RhD negative woman, maternal blood will be tested to assess fetomaternal haemorrhage. Maternal blood sample to be taken within 2 hours of birth. (ASW 2019) with minimum patient identifiers used.
- Cord blood will be tested to ascertain the status of the baby. Minimum patient identifiers must be used. If the baby is RhD positive, women who are RhD negative should be offered 500iu anti-D; or a higher dose may be required if indicated by the laboratory, within 72 hours of birth. The anti-D will be supplied by the issuing laboratory on a named woman basis.
- Anti D will not routinely be given following birth but will be withheld until the baby's blood group is available. The maternal and cord samples must be transported to the DGH laboratory for testing as soon as possible, considering routine transport times, weekends and bank holidays, as a taxi may need to be arranged for the transport of bloods to the DGH laboratory. The midwife must state her mobile number on the request form so that the laboratory can communicate the results and arrange transport of anti-D if required. If the midwife who has taken the maternal and cord blood is not available to receive the results; a clear written plan must be handed over to an appropriate midwife.
- The administration of postnatal anti-D including Batch number, administration dose, expiry date as well as date and time of administration must be documented in the woman's postnatal care pathway. Anti-D supplied by the issuing blood bank to a specific named woman will have a corresponding traceability label/documentation attached containing full patient details. This needs to be completed with the date and time of administration and the signature of the midwife, and returned to the issuing blood bank within 4 days.
- The patient drug information leaflet that accompanies the anti-D should be offered to the woman.
- All RhD negative women who require anti-D following a District General Hospital birth should have received anti-D prior to discharge. It is the responsibility of the midwife undertaking the first postnatal visit to ensure that anti-D has been administered.
- See Appendix 2 for postnatal care pathway.

## **7. Women who decline anti-D**

- RhD-women will have sufficient information to make an informed choice about the administration of anti-D. For some women the administration of a blood product may be unacceptable, if a woman declines anti-D her decision must be respected. The implications and risks to future obstetric outcomes must be discussed and documented.
- Bloods for antibody screening will still be offered at 28 weeks gestation.
- Record on Powys requisition/receipt log that the woman has declined anti-D.
- Women may opt not to have anti-D for other reasons; for example, they are opting to be sterilised following the current pregnancy or are certain that you won't have any more children, they are certain that the father of the baby is RhD negative. (Routine testing of partner's blood group is not to be offered due to the potential complications of assumed paternity)
- Any woman who declines anti-D must have the implications to future pregnancies discussed and documented.

## **8. Women with allergies**

- All midwives need to be aware of PTHB policy on Anaphylaxis. All midwives to carry adrenaline 1:1000 and be aware of correct dosage and administration.
- Women who have been identified as having serious allergies, previous anaphylactic reaction, or latex allergies should be individually risk assessed and advice sought prior to anti-D immunoglobulin administration. It is recommended that woman who have had previous anaphylactic reactions or have serious allergies should be given anti-D in an environment where advanced life support can be administered.

## **9. Monitoring Compliance / Audit**

Compliance with these guidelines will be monitored through clinical midwifery supervision, issues raised through training days and the Datix reporting system.

## **10. Review and Change Control**

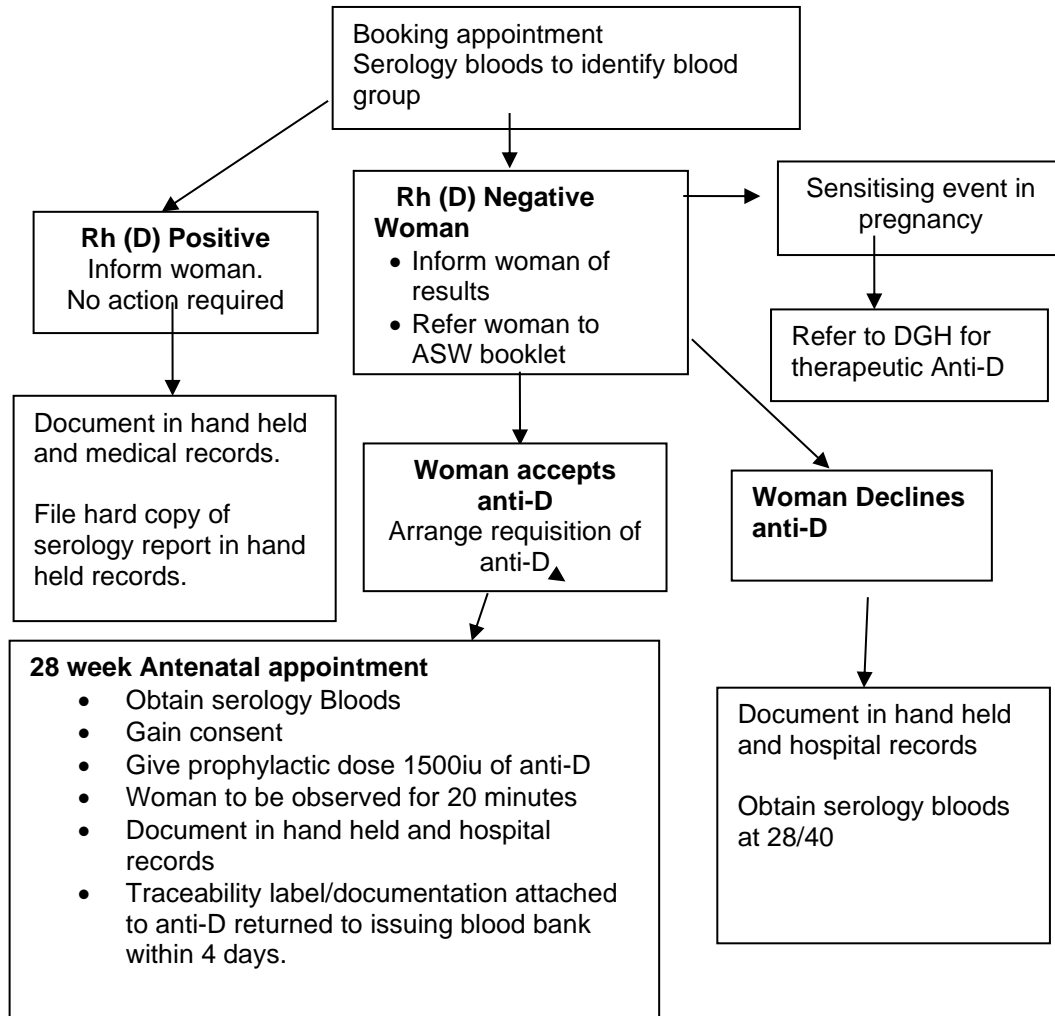
These guidelines will be reviewed every three years or sooner should changes to legislation, guidance or practice occur.

## 11. References / Bibliography

- Antenatal screening Wales Policy, standards, and Protocols 2015 Version 5 (2019) [Screening Information for Professionals - Standards and protocols 2019 V5 English Links to intranet site .pdf - All Documents \(sharepoint.com\)](#)
- British National Formulary 62 (2011) Anti-D (Rho) immunoglobulin: London: Pharmaceutical Press
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- Nursing and Midwifery Council (2015) *Standards for medicines management*. NMC. London.
- PtHB/CDP 007 Management of Anaphylaxis Procedure
- PtHB/MAT 053 Antenatal Care for Uncomplicated Care NICE Guidance <https://www.nice.org.uk/guidance/ng201>
- PtHB/MAT 056 Antenatal Screening Guidelines
- <https://b-s-h.org.uk/guidelines/guidelines/use-of-anti-d-immunoglobulin-for-the-prevention-of-haemolytic-disease-of-the-fetus-and-newborn>
- <https://www.shotuk.org/wp-content/uploads/myimages/anti-D-aide-memoire-Sept-2021.pdf>



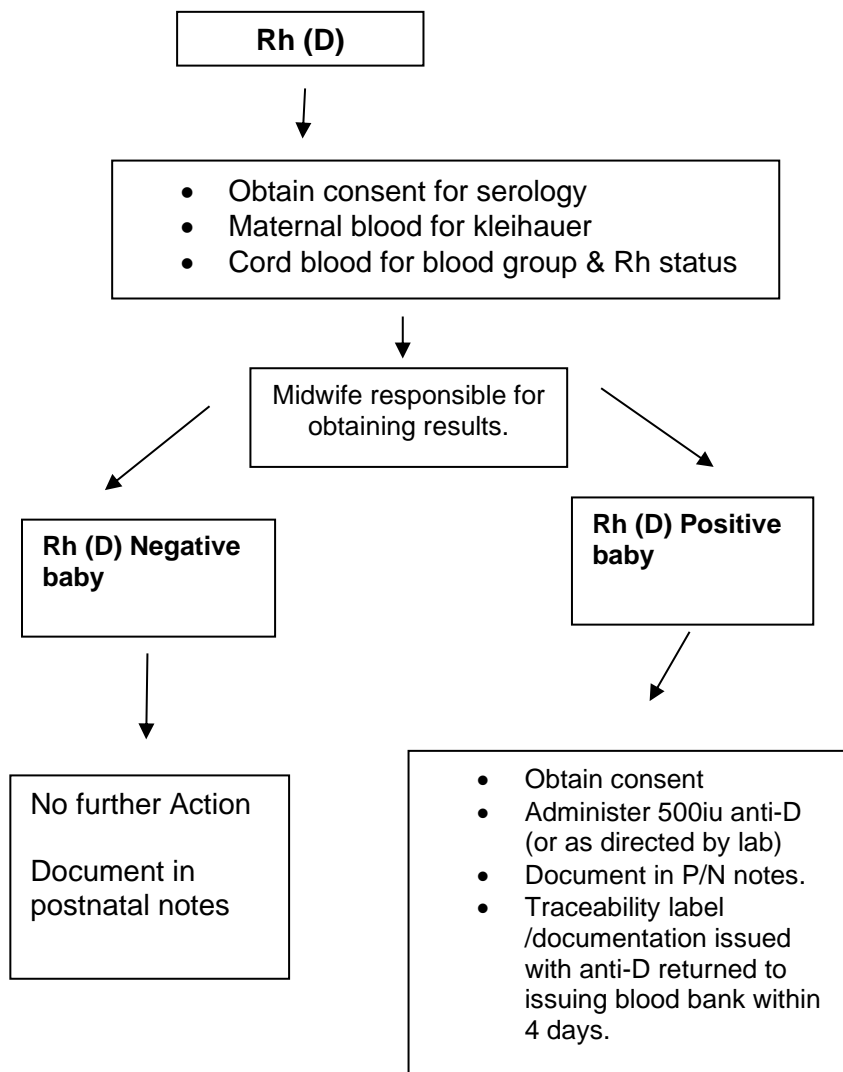
## Appendix 1: Care Pathway



**Rh (D) Negative women who are already sensitised should not be given anti-D  
Any woman who is sensitised needs referral to DGH**

## Appendix 2

### Care Pathway Administration of anti-D to Postnatal Rh (D) Negative women in Powys



**Appendix 3:**

**Request for Rhophylac 300 (1500 iu) Record to be kept in Birth Centre**

**Birth Centre:** .....

Addressograph	EDD	Date Anti D to be delivered to birth centre	Date request with hard copy of booking blood results sent to NHH	Date Anti D received	Date & time administered or other information as to fate of anti D	Traceability Label returned to NHH