Document Title:	**ADMINISTRATION OF ANTI D FOR Rh(D) NEGATIVE PATIENTS IN MATERNITY**		
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Related Trust Policies (to be read in conjunction with)	04071 Standard Infection Prevention 04072 Hand Hygiene 04184 Manual of Blood Transfusion Policies and Procedures 07040 Management of Pregnant and Postnatal Patients Refusing Blood Products 07072 Management of a Patient Reporting an Antepartum haemorrhage 04272 Guideline for Maternity Care

Document Review History:			
Version No:	**Authored/Reviewer:**	**Summary of amendments/ Record documents superseded by:**	**Issue Date:**
1.0	Judy Evans		November 2006
2.0	Judy Evans		November 2008
3.0		Update on point 3.9; Audit and monitoring; Equality and diversity update	August 2009
3.1	Sarah Moon	Change of anti-D suppliers and dosage, point 3.9	July 2010
3.2	Sarah Moon	Clarification to point 3.0; change of name due to PFI move	November 2010
4.0	Nicky Leslie		April 2013
4.1	Sarah Moon	Clarification to points 6.5 & 6.6	September 2014
5.0	Nicky Leslie (Antenatal and Newborn Screening Co-ordinator)		13th June 2016
5.1	Nick Sheppard	Clarification to points 4.7; 6.2 and 9.0	8th February 2018
5.2	Angela Wrobel	Clarification to point 4.9	12thJuly 2018
6.0	Emma Neate	Full Review	17th June 2019

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1.0 Purpose

1.1 The purpose of this guideline is to provide guidance on the administration of Anti-D for rh(D) negative patients in maternity

2.0 Equality and Diversity

2.1 Mid Essex Hospital Services NHS Trust is committed to provision of a service that is fair, accessible, and meets the needs of all individuals.
(Refer to Appendix 1)

3.0 Background and Introduction

3.1 During pregnancy small amounts of fetal blood can enter the maternal circulation (an event called feto–maternal haemorrhage or FMH). The presence of fetal RhD-positive cells in her circulation can cause a mother who is RhD negative to mount an immune response. This process is called sensitisation or alloimmunisation.

3.2 The risk of sensitisation is greatest in the first pregnancy and decreases with each subsequent pregnancy. Once sensitisation has occurred it is irreversible. It is most common in the third trimester and during childbirth.

3.3 Routine antenatal anti-D prophylaxis (RAADP) is recommended as a treatment option for all pregnant women who are rhesus D (RhD) negative and who are not known to be sensitised to the RhD antigen. It is recommended that these women are offered RAADP in the form of Anti-D 1500iu at 28 weeks gestation. If women book late or move area and have not been offered RAADP this should be discussed and offered as soon as possible after 28 weeks.

3.4 The evidence examined demonstrated that the introduction of RAADP would reduce the deaths associated with haemolytic disease of the newborn from 1 in 2,200 births to 1 in 21,000 births.

4.0 Antenatal Prophylactic Anti-D

4.1 Prior to 20 weeks of gestation if Anti –D is indicated for a sensitising event i.e. trauma or per vaginum bleed a standard 500 iu dose should be given within 72 hours of the event.

4.2 In addition to routine Anti-D given at 28 weeks, all RhD negative, RhD antibody negative (non-sensitised) women are likely to require further Anti-D (following obstetric consultation) as a result of the following sensitising events during pregnancy:

- Ectopic pregnancy;
- ERPC;
- Amniocentesis;
- Chorionic villus sampling;
- Abdominal injury e.g. seat belt injury;

- PV Bleed;
- Miscarriage after 12 weeks;
- Termination of pregnancy;
- Successful or unsuccessful ECV;
- Intrauterine death (IUD) - In the event of an intrauterine death (IUD), where no sample can be obtained from the baby, an appropriate dose of prophylactic anti-D Ig should be administered to RhD negative, within 72 hours of the diagnosis of IUD, irrespective of the time of subsequent delivery.

4.3 Antenatal Prophylactic Anti-D may not be necessary in the following incidences: (Refer to Management of Pregnant and Postnatal Patients refusing Blood Products"; register number 07040)

- The patient may decide against it following discussion of both benefits and risks. It could be that she does not wish to have a human blood product. In this event refer to the guideline for refused blood products (the risks of transmission of a known pathogen is extremely low, less than one in a million);
- The biological father of the baby is known to be Rh(D) negative;
- Women who are already sensitised to Rh(D) should only be given anti-D following discussion with the Blood Transfusion Laboratory; who will review each case on an individual basis;
- Women who are certain that they will not have another child;
- Women who object on religious grounds;
- Women who plan to be sterilised after birth.

5.0 Procedure

5.1 All patients will have blood taken at their first antenatal booking appointment which includes blood group and antibody screen. Rh(D) negative patients will be identified and the results documented in the woman's handheld notes at the next antenatal appointment.

5.2 On identification of the Rh(D) negative status, the Rh(D) negative stamp will be placed in the woman's hand held notes.

5.3 Following a discussion with the woman, an NHS Blood and Transplant (NHSBT) generated leaflet entitled 'Protecting women and babies with anti-D immunoglobulin' is given. The health care professional should document both in the woman's hand held records.

5.4 Once identified as Rh(D) negative, an appointment will be given at 28 weeks gestation either at Broomfield Hospital, WJC Braintree or St Peters Maldon (stand-alone birthing units) for the administration of anti-D. Out of area patients who are booked at Mid Essex will also be offered anti-D at Broomfield Hospital.

5.5 On Monday of each week, the administration clerk formulates the list of patients who will be attending the anti-D clinics that week; and sends the list to the Blood Transfusion Laboratory.

5.6 The administration clerk should email the clinic list to the Blood Transfusion Laboratory department's generic email account – meht.bloodtransfusion@nhs.net (or hand deliver the Anti-D clinic list to the blood transfusion laboratory).

5.7 The Anti-D will be transported to the designated areas on the morning of the Anti-D clinic. On arrival it will be transferred to the antenatal clinic drug fridge for storage until required.

5.8 It is important that the 28-week sample for blood group and antibody screen is taken prior to the routine prophylactic anti-D Ig injection being given (this forms the second screen required in pregnancy). Bloods should be taken no more than 5 days before Anti D is given.

5.9 If the patient has changed name since the previous sample for blood grouping e.g. married; a new sample for grouping and antibody will need to be sent to the transfusion department before the patient attends the clinic to ensure Anti-D is issued with the correct patient details on. **The sample result must be available for viewing on Indigo Review before the anti-D can be administered.**

5.10 Where anti-D is detected in a blood sample from a pregnant woman, further history should be taken and investigation undertaken to establish whether this is immune or passive. The outcome will inform clinical decisions regarding Anti-D prophylaxis and antenatal follow-up. If no clear conclusion can be reached as to the origin of the anti-D, then prophylaxis should continue to be administered in accordance with guidelines for Rh(D) negative women who have not formed immune anti-D

5.11 All pregnant women must be offered written and verbal information about anti-D Ig to inform their decision making. Maternal consent must be obtained prior to giving anti-D Ig, and the woman's decision to either accept or decline the injection should be clearly recorded by the healthcare professional, both in the woman's 'hand held' and hospital records. Women should also sign the consent in the hand held notes.

5.12 The responsible midwife should check the woman's gestation to establish that the Anti-D is being given at the correct time.

5.13 The responsible midwife should check the woman's identity, the transfusion card, the Anti-D label and the Anti-D with a second registered practitioner – midwife or doctor. The Anti-D must be checked for the correct dose, expiry date and batch number before administering.

5.14 The Anti-D should be written up on a prescription chart prior to administering.

5.15 The injection of 1500 iu (international units) of Anti-D immunoglobulin will be given intramuscularly and this can be prescribed by the midwife responsible for administering the Anti-D. The volume of this injection is 1.2 ml and should be administered into the deltoid muscle.

5.16 The administration of the Anti-D should be documented in the patient's hand held records including the sticky label attachment displaying the batch number, which has been signed and countersigned by the responsible health care professionals. The transfusion card should be signed in accordance with the blood products policy and the prescription chart should be signed and countersigned. The remaining portion of the Anti-D label should be returned to the transfusion department via the internal post.

(Refer to 'Manual of Blood Transfusion Policies and Procedures'; register number 04184)

5.17 Each patient will be required to rest for a total of 20 minutes following the injection to observe for a possible reaction. Epipens are stored in a locked drugs' cupboard in the Antenatal clinic if required. An anaphylactic grab box is available and located in the clean utility room.

5.18 In the event of an adverse reaction following the administration of Anti-D, the patient should be treated in accordance with the 'Blood Transfusion Policy' and in addition the adverse blood product reaction sheet should be completed.
(Refer to 'Manual of Blood Transfusion Policies and Procedures'; register number 04184)

5.19 If a sensitising event occurs after 20 weeks gestation i.e. vaginal bleeding, a Kleihauer screening test should be performed to identify the volume of the fetomaternal haemorrhage. Regardless of the volume of fetal cells found, the following dosage of anti-D should be administered:

- 500 iu of anti-D up to 19+6 weeks gestation;
- 500 iu of anti-D from 20+0 weeks gestation.

5.19 The fetal cell count is designed to ensure that no further prophylactic Anti-D is required.

5.20 All Rh(D) negative patients should have routine prophylaxis of Anti- D at 28 weeks. The dose given at 28 weeks is in addition to any other dose required for a sensitising event. If a sensitising event occurs after 28 weeks gestation, the above procedure highlighted in points 4.18 should be followed.

6.0 St Peters and WJC Stand-alone Birthing Units

6.1 The Anti-D clinic based at St Peters is held on a Thursday of each week.

6.2 The patients requiring anti-D that are booked at WJC, Braintree are identified at 16 weeks and the patient details are recorded in the Anti-D register. Anti –D is then requested via fax on a Monday morning each week in conjunction with the patient's 28 week antenatal appointment.

7.0 Postnatal Management of Rh(D) Negative Women

7.1 Cord blood samples for group, Direct Antiglobulin Test (DAT) and Hb should be obtained after delivery and the correct blood form completed.

7.2 Maternal blood samples for group, antibody screening and Kleihauer testing should be performed within 2 hours (recommended 30-90 minutes following completion of the third stage of labour) of delivery to identify Rh(D) negative women with a large fetomaternal haemorrhage who require additional Anti-D. Both the maternal and cord blood samples

should be sent together to the Blood Transfusion laboratory for analysis, see below for labelling requirements.

Maternal sample should be labelled with:
First name
Last name
Date of birth
Hospital number*

Cord sample should be labelled with:
First name (if known or **Infant of xxxxx**)
Last name
Date of birth
Hospital number*

* It is expected that the MEHT hospital number will be used as the identifying number for in-patients. Where the NHS number is also used as a fifth point of identification this must be written correctly. Where booking bloods are collected in the community and the patient does not have an assigned hospital number the NHS number may be used as the identifying number.

7.3 If there is more than one baby label as either Male infant 1/Twin 1 etc in order to distinguish between them.

7.4 Ensure the samples are correctly and clearly identified as ‘maternal’ and ‘cord’.

7.5 Samples should also be labelled with Location, date of collection and be signed by the collector.

7.6 Samples which are not labelled correctly will be rejected by the laboratory.

7.7 The Blood Transfusion laboratory will dispatch the Anti-D if required after delivery of the baby.

7.8 Anti-D should be administered as soon as possible; but always within 72 hours. If the Anti-D is not administered within 72 hours, a dose given within 10 days may provide some protection. However, if administered after 72 hours, this should be documented via Datix in order that the laboratory are aware and can report to the Serious Hazards of Transfusion Scheme (SHOT).

7.9 If **Cell Saver** is used on a **Rh(D) negative** pregnant woman (baby is Rh(D) positive), then she should be **issued with a minimum 1500 iu** of **Anti- D** rather than the usual 500 iu. The midwife should record on the cord bloods form ‘Cell Salvage’, in order to inform the laboratory. If the cell saver is in use and the baby has not been born, consider giving anti-D unless it can be grouped.

7.10 For those women whom have a **platelet disorder**, the recommendation is that anti –D should be administered **intravenously**. Discuss with the blood transfusion laboratory to ensure the correct product is issued for these patients. Anti-D supplied by BPL is currently not licensed for IV use but CSL Behring anti-D is.

8.0 Staffing and Training

8.1 All midwifery and obstetric staff must attend yearly mandatory training which includes skills and drills training.

8.2 All midwifery and obstetric staff are to ensure that their knowledge and skills are up-to-date in order to complete their portfolio for appraisal.

9.0 Infection Prevention

9.1 All staff should follow Trust guidelines on infection prevention by ensuring that they effectively 'decontaminate their hands' before and after each procedure.

9.2 All staff should ensure that they follow Trust guidelines on infection prevention, using Aseptic Non-Touch Technique (ANTT) when carrying out procedures i.e. obtaining blood samples and administering the anti-D injection.

10.0 Professional Midwifery Advocates

10.1 Professional Midwifery Advocates provide a mechanism of support and guidance to women and midwives. Professional Midwifery Advocates are experienced practising midwives who have undertaken further education in order to supervise midwifery services and to advise and support midwives and women in their care choices.

11.0 Audit and Monitoring

11.1 Audit of compliance with this guideline will be considered on an annual audit basis in accordance with the Clinical Audit Strategy and Policy (register number 08076), the Corporate Clinical Audit and Quality Improvement Project Plan and the Maternity annual audit work plan; to encompass national and local audit and clinical governance identifying key harm themes. The Women's and Children's Clinical Audit Group will identify a lead for the audit.

11.2 The findings of the audit will be reported to and approved by the Multi-disciplinary Risk Management Group (MRMG) and an action plan with named leads and timescales will be developed to address any identified deficiencies. Performance against the action plan will be monitored by this group at subsequent meetings.

11.3 The audit report will be reported to the monthly Directorate Governance Meeting (DGM) and significant concerns relating to compliance will be entered on the local Risk Assurance Framework.

11.4 Key findings and learning points from the audit will be submitted to the Clinical Governance Group within the integrated learning report.

11.5 Key findings and learning points will be disseminated to relevant staff.

12.0 Guideline Management

12.1 As an integral part of the knowledge, skills framework, staff are appraised annually to ensure competency in computer skills and the ability to access the current approved guidelines via the Trust's intranet site.

12.2 Quarterly memos are sent to line managers to disseminate to their staff the most currently approved guidelines available via the intranet and clinical guideline folders, located in each designated clinical area.

13.0 Communication

13.1 A quarterly 'maternity newsletter' is issued to all staff with embedded icons to highlight key changes in clinical practice to include a list of newly approved guidelines for staff to acknowledge and familiarise themselves with and practice accordingly. Midwives that are on maternity leave or 'bank' staff have letters sent to their home address to update them on current clinical changes.

13.2 Approved guidelines are published monthly in the Trust's Staff Focus that is sent via email to all staff.

14.0 References

Royal College of Obstetricians and Gynaecologists (2011) Use of Anti-D Immunoglobulin for Rhesus D Prophylaxis. Guideline No. 22. Update March 2011.

Royal College of Obstetricians and Gynaecologists (2014) The Management of Women with Red Cell Antibodies during Pregnancy

NHS Blood and Transplant (2010) Blood Groups and red cell antibodies in pregnancy

National Institute for Health and Care Excellence (2008) Routine Antenatal Anti-D prophylaxis for women who are Rhesus D Negative. Technology Appraisal Guidance (TA156) London: NICE..

National Institute for Health and Care Excellence (2008) Antenatal Care for Uncomplicated Pregnancies. Clinical Guideline (CG 62) London: NICE.

Qureshi, H et al (2014) BCSH guideline for the use of anti-D immunoglobulin for the prevention of haemolytic disease of the fetus and newborn. Transfusion Medicine 24

BCSH Guidelines for Blood Grouping and Red Cell Antibody Testing during pregnancy (BCSH, 2007; NICE 2008)

Appendix 1: Preliminary Equality Analysis

This assessment relates to: Administration of Anti D for Rh(D) Negative Patients in Maternity (06065)

A change in a service to patients		A change to an existing policy	**X**	A change to the way staff work	
A new policy		Something else (please give details)			

Questions	Answers
1. What are you proposing to change?	Full Review
2. Why are you making this change? **(What will the change achieve?)**	3 year review
3. Who benefits from this change and how?	Patients and clinicians
4. **Is anyone likely to suffer any negative impact as a result of this change?** If **no**, please record reasons here and sign and date this assessment. If **yes**, please complete a full EIA.	No
5. a) Will you be undertaking any consultation as part of this change? **b) If so, with whom?**	Refer to pages 1 and 2

Preliminary analysis completed by:

Name	Emma Neate	**Job Title**	Senior Midwife	**Date**	May 2019