Clinical Guideline

RHESUS(RHD) NEGATIVE ANTENATAL MANAGEMENT

SETTING Maternity Services

FOR STAFF Midwifery &obstetric staff

PATIENTS Rhesus negative antenatal women

GUIDANCE

Introduction

Each year in England and Wales there are about 105,000 births to RhD negative women, some 17% of all births (NICE, 2002). RhD negative women who carry an RhD positive fetus may produce antibodies to the fetal RhD antigens after a fetomaternal haemorrhage (FMH). These antibodies may then cross the placenta in future pregnancies and cause haemolytic disease if the fetus is RhD positive. A woman can also be sensitised by a previous miscarriage, spontaneous or elective abortion or amniocentesis or other invasive procedure.

Evidence for routine Antenatal Prophylaxis (RAADP)

Meta analysis of studies has revealed that administration of 1dose of 1500iu of Anti-D between 28 and 30 weeks gestation is as effective at reducing haemolytic disease as 2 doses of 500iu at 28 and 34 weeks gestation (NICE 2008). **NICE now support a single dose of 1500 units of anti D between 28- 30 weeks of pregnancy**.

A reduction in neonatal deaths caused by haemolytic disease of approximately two thirds was demonstrated. (NICE, 2002). The decision for participation in the RAADP programme is ultimately the woman's choice.

Free Fetal DNA (FFDNA)

In approximately 1:3 pregnancies the fetus will be Rhesus Negative in such cases Anti D would have been unnecessary. Since 2001 there have been developments enabling the mothers blood to be tested for free fetal DNA.

From April 2013 Bristol, South Gloucestershire and North Somerset (BNSSG) will be part of a pilot to offer the blood test to women as it is possible to determine the unborn blood group from the mother's blood. **(This only applies to woman who plan to birth in BNSSG)**

This means that there are 2 pathways for Rhesus negative women to select from

- Those who choose to follow current NICE guidance (RAADP) - **Pathway One**
- Those who choose to have free fetal DNA test- **Pathway Two**

Management

- At the booking appointment the woman will be offered a blood test for RhD status. This should be offered even if the woman is aware of her status.

- The midwife is responsible for obtaining and informing the woman of the test results at the next antenatal contact.

- If the woman is RhD negative the following action should be instigated:

- The woman should be given the current patient information leaflet for RAADP and allowed the opportunity to discuss the information. This must be documented in the notes
- All Rhesus negative woman on confirmation of their negative status should be given written information about the Free Fetal DNA blood test.
- A decision on the consent for RAADP needs to be made by 24 weeks gestation or as soon as possible if a woman books late.

Pathway One (RAADP)

If the woman accepts RAADP

- Send a completed request form for 1 vial of 1500iu of Anti-D to the Blood Transfusion Department. The address for the Anti-D to be sent must be clearly stated; this will normally be the midwifes base

- Once the Anti-D has been received it must be stored in a drug fridge between the temperatures of 2 and 8 °C.

- The issue form sent with the Anti-D must remain with the Anti-D at all times

If the woman declines RAADP

- This should be documented in the notes. Blood should then be taken for antibodies at 28 and 34 weeks gestation
- Blood must also be taken following any sensitising event (refer to Appendix 1)

At 28 weeks gestation:

i) An appointment should be made within the midwifery workload to see the woman at the health centre
ii) Blood should be taken for antibodies **PRIOR** to the administration of Anti-D
iii) Confirm maternal consent for RAADP
iv) Administration should occur in a health centre / surgery / hospital where resuscitation equipment is available
v) Administration is by the intramuscular route, and into the deltoid or quadriceps muscle using the normal checking procedure
vi) Following administration the woman must be advised not to leave the health centre for at least 20 minutes. She should be advised to inform a member of staff if feeling unwell
vii) The administration of Anti-D should be documented in the woman's hand held notes
viii) The issue form must be signed by the midwife administering the Anti-D and be secured in the woman's hand held notes

- If the woman subsequently declines RAADP or moves area, the unused vial and issue form MUST be returned to the Blood Transfusion Department. The reason for return must be clearly stated on the issue form e.g. moved, declined, delivered.

- If the woman is an inpatient when requiring RAADP the hospital is responsible for administering the dose from the clinical areas stock. The community midwife should be informed in order that she can return any unused Anti-D

Women who present after 28 weeks gestation or decide to have RAADP late in pregnancy

Following a Sensitising Event

- Appendix 1 highlights what is classified as a sensitising event

- Following a sensitising event RhD negative women should be reviewed by medical staff and advised to have blood taken for Kleihauer

- Administration of at least Anti-D 500iu must still continue alongside the RAADP as directed by Blood Transfusion Dept. It is best practice to treat RAADP and sensitising events as two separate programmes

Following Birth

- After the birth of the baby, cord and maternal blood should be taken and sent with a request form for fetal leak to Blood Transfusion

- 500iu Anti-D (or larger dose if directed by Blood Transfusion) should be given with maternal consent

Additional Notes

- All midwives must be up to date with the guidelines and management of anaphylaxis

- All midwives must ensure they are familiar with the resuscitation equipment in all areas where Anti-D may be administered

- Women should be advised that the father of the baby will not be routinely tested for their RhD status

- If the RhD status of the father of the baby is known to be RhD Negative this may be a reason for the woman to decline RAADP

- If the woman suffers from haemoglobinopathy or clotting disorders the case should be referred to the consultant hematologist

Pathway Two

Pilot for Free Fetal DNA (FFDNA)

Appendix 3

- Women who consent to bloods for FFDNA are offered a blood test at 15-16 weeks gestation.
- Bloods must **not** be obtained before 12 completed week's gestation as the result will be inaccurate and repeat sample will be required.
- The result of the FFDNA test is only valid for the current pregnancy- FFDNA needs to be repeated for each pregnancy
- Women with multiple pregnancy may be offered FFDNA
- If the woman agrees to the FFDNA testing bloods 6ml EDTA sample is taken and sent to the laboratory with correct request form.
- This is documented in the maternity records
- Results are available within 10 working days(VPLS).
- The community midwife will track result and inform women.

- At 28 weeks gestation repeat bloods are taken for full blood count and Rh antibodies

regardless of FFDNA results

- Where the FFDNA result has shown the fetus to be **positive Anti D 1500IU is given with consent** and documented in maternity hand held records
- Where the FFDNA results shown the fetus to be **negative it is not necessary to give Anti D**- the lab report should be secured and result documented in the maternity hand held records

- If a **sensitising** event(appendix 1) occurs and if the FFDNA result is available

Fetus result is **negative, Anti D is not necessary**(unless requested by the woman) Kleihauer blood test does not need taken routinely unless requested by medical staff.

Fetus result **positive , Anti D will be necessary** and a Kleihauer blood test advised

All Women should be reviewed by medical staff following a sensitising event.

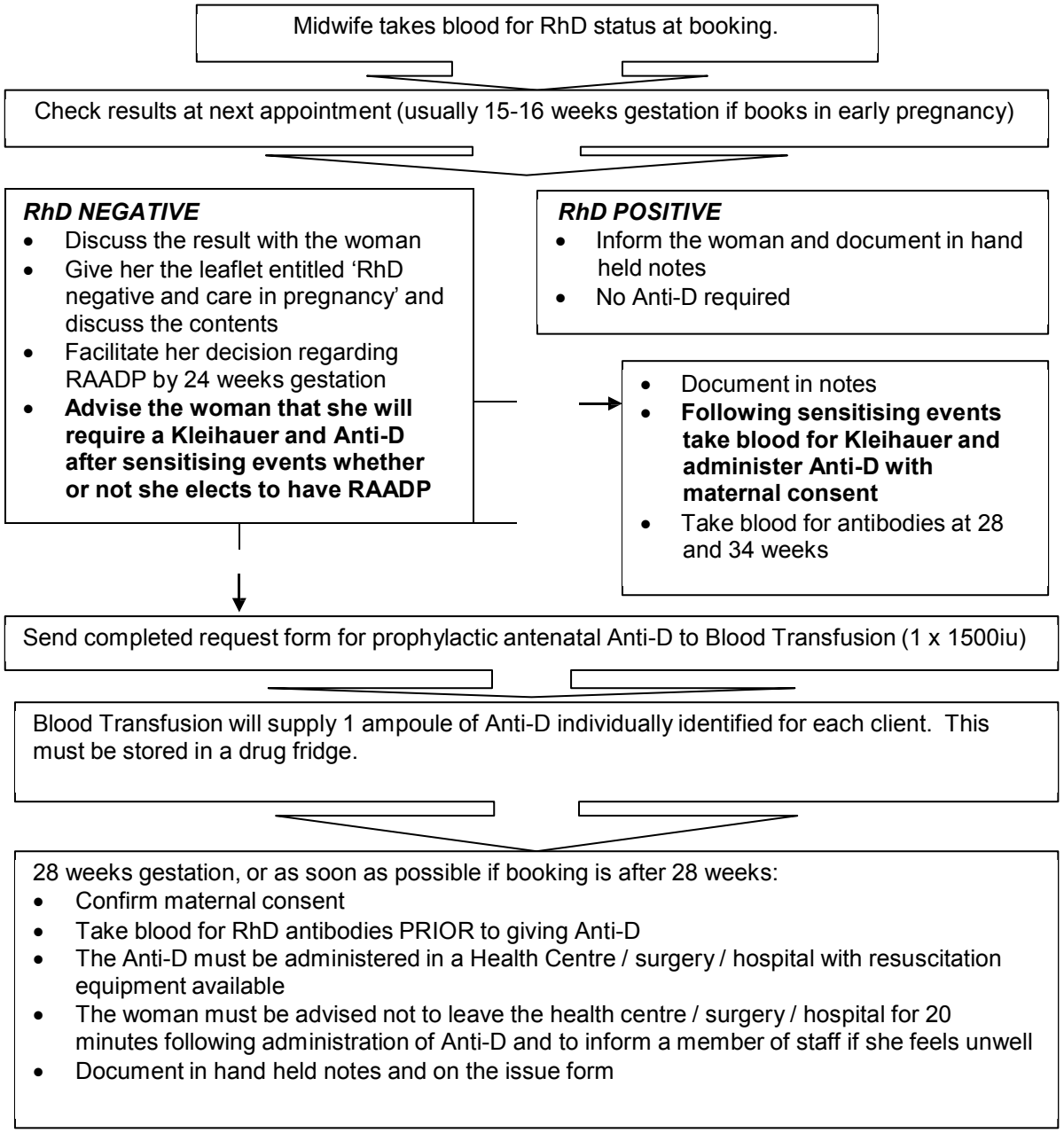
- Women who present after 24 weeks gestation need not be offered FFDNA- Please follow **Pathway One**

Appendix One

SENSITISING EVENTS

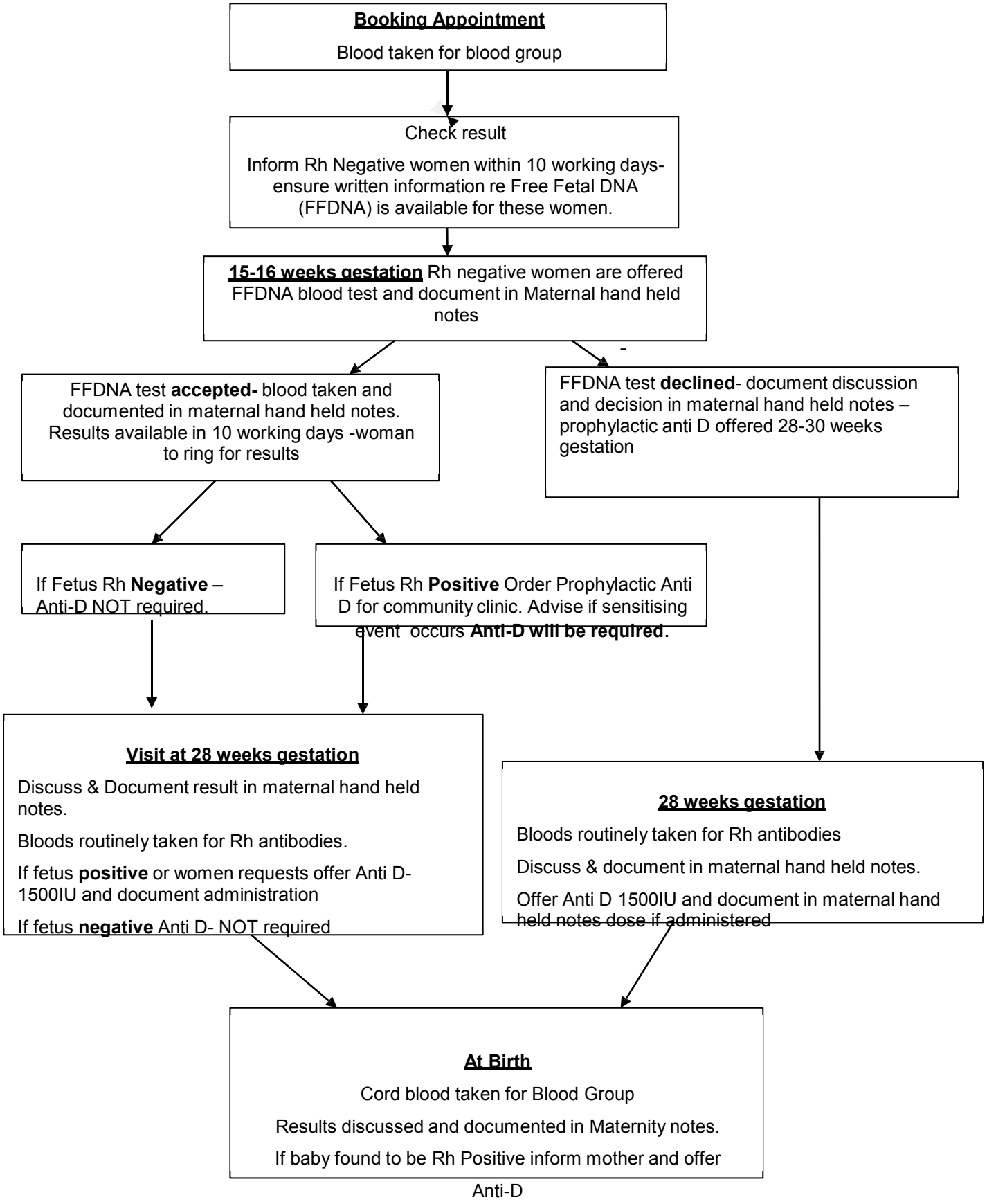
- Antepartum haemorrhage
- Invasive diagnostic procedures e.g. amniocentesis, chorionic villus sampling
- Other intrauterine procedures e.g. those carried out in fetal medicine unit (insertion of shunts)
- External Cephalic Version
- Intrauterine Death
- Abdominal trauma

Appendix 2
ALGORITHM FOR RAADP



Appendix 3

Pathway for women who are found to be Rh Negative and offer of Free Fetal DNA (FFDNA) testing



Version 4

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This version ratified by Antenatal Working Party

Date implemented April 2013
Review date April 2015

References

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RELATED DOCUMENTS Rhesus(RHD) Negative antenatal management

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