Setting up a cFFDNA screening service

Julie Staves
Transfusion Laboratory Manager

Objectives

- Aim is to avoid unnecessary anti-D in those with RhD neg fetus
  - identify RhD negative women at booking
  - inform patient, community midwife and GP of result and offer testing
  - check the fetal RhD status from maternal blood sample

Coordinated by blood transfusion laboratory

- A number of decisions:
  - How to identify the relevant patients
  - How to ensure the midwives know which patients are eligible for the test
  - Handling the samples on receipt
  - Handling the results
  - Availability of results to the clinical teams

Identifying RhD negative women

- Laboratory IT system (telepath) to identify RhD neg
- Check against EDD to ensure a booking sample

Oxford University Hospitals NHS
NHS Foundation Trust

Communication

- Ensuring the midwives know who is eligible for the test

Department of Laboratory Haematology
John Radcliffe Hospital
Headington
Oxford
OX3 9DU
Switchboard 0300 304 7777

Oxford University Hospitals NHS
NHS Foundation Trust

Dear

Your blood group has been identified as Rhesus D negative (RhD neg). If your baby is RhD positive, there is a small chance that you form antibodies that may cause anaemia in your baby. We are able to prevent this with anti-D injections given at 28 weeks and after delivery.

At the moment all RhD negative women are offered these injections, but you may not need them if your baby is also RhD negative. We are now able to identify the RhD type of the baby from your blood sample.

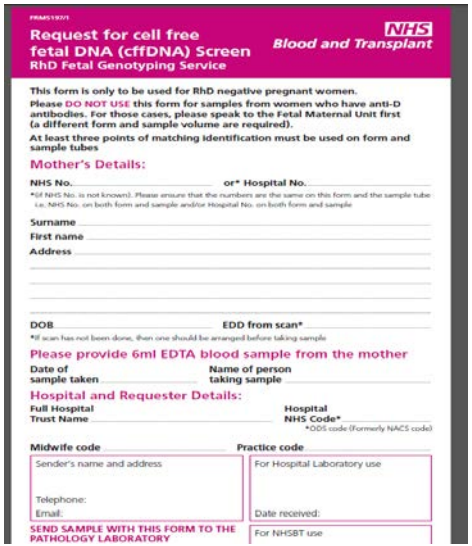
If you would like to take this opportunity to find out the RhD type of your baby, please take this letter and form to your midwife or GP (not an option if this is out of Oxford County) or to the phlebotomist at the John Radcliffe Women's Hospital (available to all) or when you attend your 20 week scan at the John Radcliffe

Yours sincerely

Dr Sue Favord
Consultant Haematologist
Transfusion Medicine and Obstetric Haematology

Dr Brenda Kelly
Consultant Obstetrician
Fetal Medicine Unit

Enc:



Request for cell free fetal DNA (cffDNA) Screen
RhD Fetal Genotyping Service

NHS Blood and Transplant

This form is only to be used for RhD negative pregnant women.
Please DO NOT USE this form for samples from women who have anti-D antibodies. For those cases, please speak to the Fetal Maternal Unit first (a different form and sample volume are required).
At least three points of matching identification must be used on form and sample tubes

Mother's Details:

NHS No. or* Hospital No.
*(if NHS No. is not known). Please ensure that the numbers are the same on this form and the sample tube i.e. NHS No. on both form and sample and/or Hospital No. on both form and sample

Surname
First name
Address

DOB EDD from scan*
*If scan has not been done, then one should be arranged before taking sample

Please provide 6ml EDTA blood sample from the mother

Date of sample taken
Name of person taking sample

Hospital and Requester Details:

Full Hospital Trust Name
Hospital NHS Code*
*ODS code (Formerly NACS code)

Midwife code
Practice code

Sender's name and address
Telephone:
Email:

For Hospital Laboratory use
Date received:

SEND SAMPLE WITH THIS FORM TO THE PATHOLOGY LABORATORY

For NHSBT use

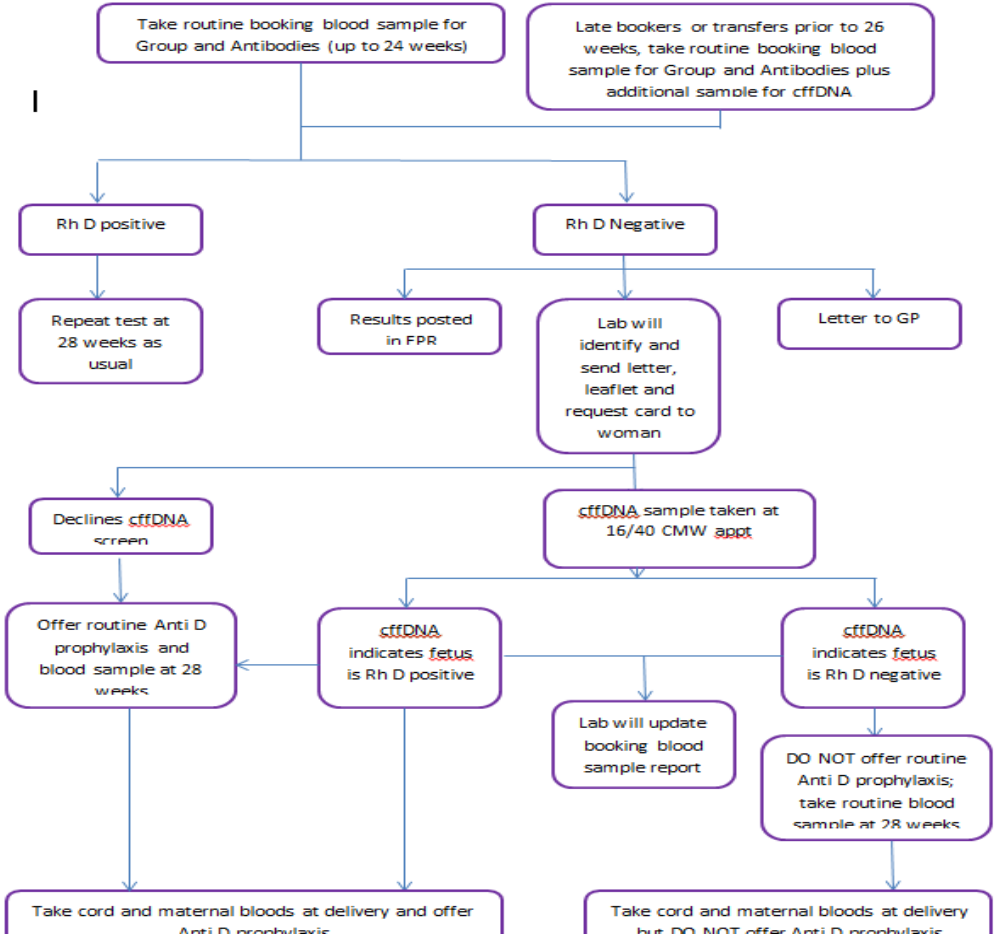
Samples

- Sample handling
  - Receipt of the sample is entered into the lab IT system
  - Samples dispatched to NHSBT on routine transport

Results

- We only get electronic copies of the reports from spICE
- Results manually entered into the lab IT system (and double checked)
- This sends the results to the GP systems and to the hospitals' EPR

Hospitals NHS
undation Trust



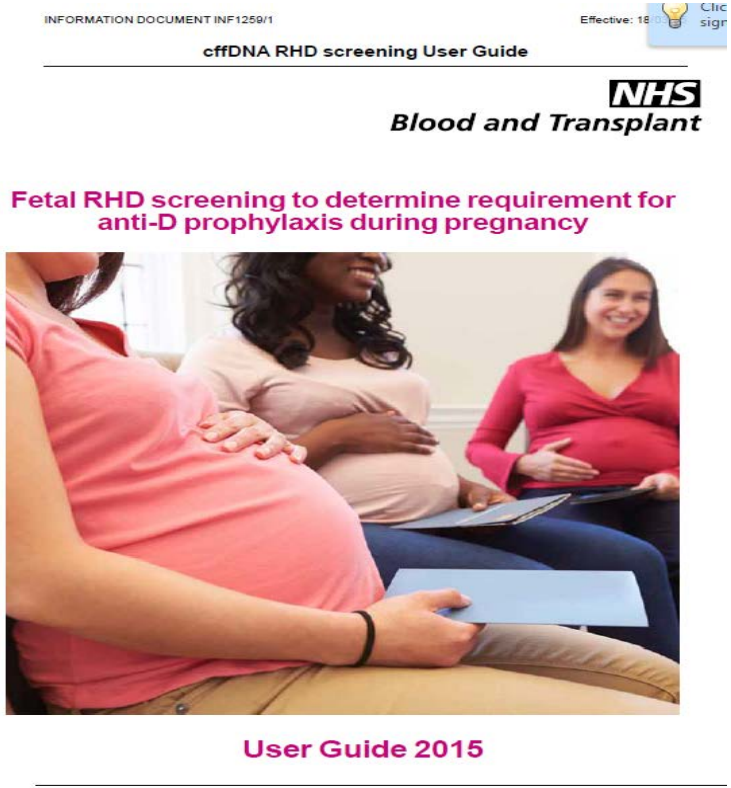
Coordination of service

- Employed some clerical help with the administration (15 hours a week)
- The funding for this was from the predicted savings in prophylactic anti-D
- Some BMS time checking the results but this is not significant

Oxford University Hospitals NHS
NHS Foundation Trust

Education

- Community Midwives
- Trust midwives
- Obstetricians
- GPs



Figures to date

- 1st Feb- 31st August
  - 806 letters to patients inviting them to have the test
  - 439 samples received
  - 151 patients are predicted to be carrying a RH D neg baby (37.4 %)
  - 17 inconclusive results
  - 36 labelling issues
  - 1 mum who requested anti-D despite carrying a RhD neg fetus

Post delivery

- We are still undertaking a cord group on delivery
- We've had 148 deliveries of babies who were part of the service
- 1 midwife didn't bother to send a cord sample
- All others for which there was a predictive Rh status have been correct

Problems?

- Problems have been small!
- Sample labelling issues when taken at GPs by phlebotomists
- Midwives sending 1 EDTA instead of 2 (we used 4.5ml specimen tubes)
- GPs wanting to decide who was having the test

Conclusions

- Successful programme
- Not difficult to establish – involving the screening co-ordinator is a good thing!
- Avoids unnecessary anti-D (routine anti-D and anti-D after sensitising events)
- Avoids unnecessary investigations – clinical and Kleihauers
- Improves patient safety

Questions

?