



**Oxford University Hospitals**  
NHS Foundation Trust

# Handling cFFDNA results

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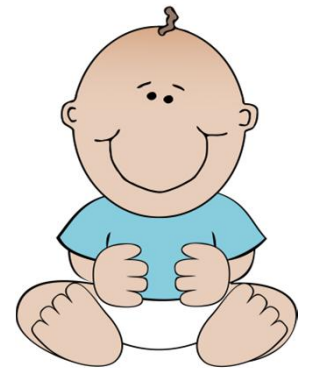
## Background

- “ Early implementer of RhD typing by referral to NHSBT for cFFDNA testing
- “ Went live 1<sup>st</sup> Feb 2016
- “ Sample referral is managed by the Laboratory
- “ Visibility of results acknowledged in the set up
- “ Multi –disciplinary approach



## Oxfordshire Antenatal service

- “ 8000+ deliveries per annum
- “ 250+ midwives who rotate between primary and secondary care
- “ Most antenatal care in the community under primary care





## Summary of our process

- “ Laboratory IT used to identify Antenatal booking samples for patients who are RhD neg
- “ Patient sent a letter, information leaflet and semi completed request card
- “ Sample bled at 16 week appointment and sent to the Lab
- “ Lab co-ordinate sending the sample to NHSBT and ensuring the results are available on EPR



## The results

- “ We decided to opt for paperless results
- “ We print off the report from SPICE – every week
- “ Admin assistant records the result in our monitoring database and enters the result on LIMS
- “ BMS checks the results in LIMS against the printed copy and authorises the report.



## How we result

### “ Examples: Predicted RhD neg baby

```
Specimen number J,18.0099847.N Requested 01.11.18 09:21 Required  
Analytical category Routine Quantity Product  
Request FFDNA Specimen comment  
Set FFDNA FREE FETAL DNA c Reportable (Sarah Henton on 08/11/18 14:08)  
Comments Free Fetal DNA results: fetal group RhD NEGATIVE  
NO PROP D IS REQUIRED FOR THIS PREGNANCY AND DELIVERY  
Results refer only to current pregnancy. Performed at IBGRL  
PLEASE SEND A CORD SAMPLE AT DELIVERY
```



## Predicted RhD pos baby

```
Specimen number J,18.0096797.K   Requested 08.10.18 13:44 Required  
Analytical category Routine           Quantity   Product  
Request FFDNA                     Specimen comment  
Set FFDNA   FREE FETAL DNA           c Reportable (Sarah Henton on 15/10/18 15:03)  
Comments   Free Fetal DNA result: Fetal group RhD POSITIVE  
           Proph Anti-D is REQUIRED for this pregnancy and delivery  
           Results refer only to current pregnancy. Performed at IBGRL  
           PLEASE SEND A CORD SAMPLE AT DELIVERY
```



## Inconclusive results

```
-----  
Specimen number J,18.0096796.C Requested 08.10.18 13:43 Required  
Analytical category Routine Quantity Product  
Request FFDNA Specimen comment  
Set FFDNA FREE FETAL DNA c Reportable (Sarah Henton on 15/10/18 14:56)  
Comments Free Fetal DNA: test inconclusive  
Proph Anti-D is REQUIRED for this pregnancy and delivery  
Results refer only to current pregnancy. Performed at IBGRL  
PLEASE SEND A CORD SAMPLE AT DELIVERY
```





## Getting the results to where they are needed

- “ The results are needed in a variety of places
- . GP Practise
  - . Community midwife
  - . Trust antenatal services
  - . Delivery suite
  - . ED
  - . Potentially other hospitals!



## GP practise

- “ Results are sent directly to the GP Practise via our GP link
- “ This means the results are available for the GP and the community midwives within the practise





## Within the Trust

“ We send all results from GPs to the Electronic Patient Record (EPR)

“ This includes cFFDNA results

The screenshot shows an EPR interface with a navigation menu on the left and a main results area. The navigation menu includes 'General Blood Bank' (checked), 'Event Notifications', and 'Clinical Documents'. The main area displays a table of results for 'General Blood Bank' with columns for dates and times. A specific result for 'Fetal Blood group by DNA' is highlighted in blue.

Results	08/Oct/2018 00:00	05/Nov/2018 14:27	08/Nov/2018 15:55	13/Nov/2018 09:15
General Blood Bank				
Fetal Blood group by DNA	<a href="#">Fetal Blood group by DNA</a>			



## The Patient

- “ We take the sample at the 16 week appointment
- “ So patient not seeing midwife routinely until 28 weeks
- “ Most want to know the results of the testing





## Patient continued

- “ Antenatal screening co-ordinator team taken on the role of sending the results to the patient
- “ Send out a copy of Spice report to the patient
- “ include a letter explaining the results and asking the patient to put the result sheet in their hand held notes
- “ This also means they are available if the patient is admitted to another trust!



## At delivery

- “ Results are available either in the patient handheld notes or on EPR!
- “ So prophylactic anti-D is only given if the results are predicted RhD pos baby or inconclusive
- “ As advised by NHSBT we request a cord sample at delivery



## Follow up

- “ Retrospectively compare predicted result with cord group
- “ Approximately 5% of patient’s don’t have a cord sample collected
  - “ We’ve investigating why currently





## Follow up continued

- “ We’ve had 2 results which were predicted incorrectly
  - “ Both we predicted to be RhD pos and were RhD neg
  - “ So anti-D was used unnecessarily
- “ We’ve also had 4 results which were predicted to be RhD pos and initially appeared to be RhD neg on a cord.
  - “ Further follow up showed a weak D status in the baby
  - “ Before introduction of cFFDNA – these would be been called Rh D neg and no anti-D given!





## Summary

- “ Handling cFFDNA results can seem complex
- “ Consider the use of coded comments in the Lab IT system – to make things simpler
- “ Consider who needs to have access to the results and how best to achieve this
- “ Patient involvement is important
- “ Follow up cord samples are still recommended