Non-invasive fetal *RHD* screening: improving care by optimising anti-D administration

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Fetal Genotype Screen

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- How will it work in your hospital
- Benefits
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1994: Fetal blood group genotyping introduced

2001: Fetal D typing on cffDNA
Later extended to K, C, c, E blood groups

Service provided for RhD negative women with anti-D
(>4 IU/ml) or with a history of fetal/neonatal haemolysis

Standard of care in England for women with antibodies
2002

Endorsed studies into the feasibility of mass antenatal testing for fetal blood group by analysis of fetal DNA in maternal plasma
2006-11 High throughput fetal *RHD* testing trials at different stages of gestation

Highly accurate from 11+2 weeks gestation

2013/14 Fetal *RHD* service pilot

- North Bristol
- University Hospitals Bristol
- Weston Area
2015

Introduction as routine screening test
NICE guidance for high-throughput non-invasive prenatal testing for fetal RHD genotype has been published on the 9th November 2016.

*Recommendation:*
High-throughput non-invasive prenatal testing (NIPT) for fetal RHD genotype is recommended as a cost-effective option to guide antenatal prophylaxis with anti-D immunoglobulin.......

You can find further information on the NICE website https://www.nice.org.uk
Ethics

Anti-D Ig is an exceptionally safe product.

Risks:
- human derived pooled product
- unknown agents (prion) to be considered
- allergic reactions
- efficacy – 0.35% when given at the correct time
- limited availability

Both the difficulty in availability and the theoretical risk mean it should be only used when required.
Fetal **RHD Screen**

We are offering this service to prevent unnecessary administration of Anti-D

**Accuracy:**
99.9% for RhD pos and neg predictions
Inconclusive results – 77-80% of these will have RhD pos babies, recommended to give anti-D Ig

**Caucasian population distribution:** 15% of mothers are RhD negative, of these 38% - 40% carry RhD negative babies

**Price:** £19.58

**Logistics:** NHSBT routine transport

**Transport time restriction:** Sample must reach IBGRL within 7 days of date taken
6mL EDTA blood sample from 11+2 weeks at a routine antenatal appointment

Send to local pathology lab who will forward them to NHSBT

Electronic report within <14 days via Sp-ICE
What do we offer

We offer:
Competitive price

Which includes:
NHSBT transport
Address labels
Request form
Patient Leaflet
User Guide
Electronic report
Help with Business plan
Calculation spreadsheet &
Maternity Pathways

Mother’s blood test to check her unborn baby’s blood group
Benefits

Elimination of donor exposure for RhD negative women expecting RhD negative babies.

Only giving anti-D Ig to those women who need it

Samples will be taken at the time when women attend the clinic for other routine tests

Clinicians can focus on women who expect RhD positive babies

Reduce concerns over supply of anti-D or risks associated with this product
Key points

The non invasive fetal DNA test is now available within the NHS

The test is highly accurate

It provides a cost-saving in maternity service budgets

The current practice means 40% of women receive anti-D Ig when they do not need it

Now targeted anti-D Ig administration for women, both at 28 weeks gestation and at potentially sensitising events during pregnancy

This approach has proved popular with midwives and pregnant women.
Contact us

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Any questions