Cytogenetic and Molecular Genetic Samples following Amniocentesis and CVS – Standard Operating Procedure

Reference No.: AN/09:21/F5

Contents

1. Abbreviations

CVS	-	Chronic Villus Sampling
EDTA	-	Ethylenediaminetetraacetic acid
FISH	-	Fluorescence in situ hybridization
NT	-	Nuchal Translucency
QF PCR	-	Quantitative Fluorescent Polymerase Chain Reaction

2. Amniocentesis

- All amniocentesis samples will be sent with a maternal blood sample to exclude maternal contamination (4mls in EDTA). This is particularly important for QF PCR.
- If microarray is clinically indicated this will be requested by the fetal medicine consultant.
- Maternal (and optional paternal) blood samples in EDTA tubes are required at the time of the amniocentesis if microarray testing is requested.
- Late gestation amniocentesis (third trimester) may report a failed result or a culture result later than two weeks due to sub optimal quality fetal cells.

3. CVS

- CVS for karyotype will not require a maternal blood sample however; CVS for molecular genetic analysis sometimes require a maternal and paternal blood sample. Clinical genetics will advise if this is required.
- Failed direct results will be analysed by FISH for Trisomy 21 if an increased risk for Downs Syndrome.
- FISH for Trisomy 13, 18, 21 and sex chromosomes is available if CVS is requested for a fetal abnormality, for example increased NT.
- If microarray is clinically indicated this will be requested by the fetal medicine consultant. Maternal and paternal blood samples in EDTA tubes are required at the time of the CVS if microarray testing is requested.
- 95% of culture results are reported within two weeks of receipt.

4. Transport of samples

Amniocentesis samples will be taken to the post room at RDH for special delivery post Monday-Thursday before 1630hrs to guarantee arrival by 1300hrs in the laboratory the following day. **On Fridays samples must be sent via taxi by 14.00 hours.**

CVS samples will always be sent by taxi Monday-Friday and **must arrive in the laboratory by 14.30 hours**. This will enable processing of a direct result within 24hours.

FMMC will telephone the laboratory when samples are dispatched by taxi. It is not necessary to phone about samples sent via special delivery post.

5. Preparation of Samples for Transport to Laboratory

CVS samples and antenatal placental biopsies are sent in specialist transport medium which is supplied by the laboratory.
Amniotic fluid is sent in a sterile universal container.

6. Before sending the samples ensure that the following are completed

- Fully completed request form with all appropriate clinical information.
- Sample must be secured within the bag attached to the request form.
- If blood sample required this must accompany the sample.
- If paternal blood is accompanying the sample please cross reference it to his partner
- Sample and request form to be secured into the cardboard transport box.
- Ensure pre-printed address label for the cytogenetics department is attached to the top of the box.
- Place the cardboard box into the Royal Mail transport plastic bag (UN3373) as per EU regulations.
- Ensure the UN3373 bag has destination label for the cytogenetics department attached.

7. POSTAL ADDRESS for all samples

Cytogenetics Department
Gate Three
Nottingham City Hospital Campus
Nottingham University Hospitals (NUH)
Hucknall Road
Nottingham
NG5 1PB

Telephone Numbers:-

Cytogenetics Department:	0115 9627617 (direct line)
Cytogenetics Dept. FAX:	0115 8402611
Molecular Genetics Department:	0115 9627743

Documentation Control

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Version / Amendment	Version	Date	Author	Reason
	1	Mar 2004	Carole Adcock – Clinical Specialist Midwife, Jeanette Steward – Audit Co-ordinator	New
	2	Aug 2012	Carol Adcock - Specialist Midwife Fetal Medicine. Sue Rucklidge -Bereavement Midwife.	Update
	3	Oct 2016	Carol Adcock - Specialist Midwife – Fetal Medicine. Sue Rucklidge - Bereavement Midwife.	Update
	4	Aug 2021	Cindy Meijer – Risk Support Midwife	Review / update
Intended Recipients: All staff with responsibility for organising Genetic Samples				
Dissemination: Cascaded through lead midwives/doctors, Published on Intranet, NHS mail circulation list. Article in BU newsletter.				
To be read in conjunction with: IOL following IUFD-fetal loss. Antenatal Screening For Down's Syndrome Guideline 2017				
Consultation with:	Midwifery, Obstetric & Gynaecology Staff			
Business unit sign off:	09/02/2021: Maternity Guidelines Group: Miss S Rajendran – Chair 12/02/2021: Maternity Governance Committee/CD: Mrs K Dent			
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