University Hospitals Sussex
NHS Foundation Trust

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STANDARD OPERATING ROCEDURE

Fetal Blood Sampling (FBS)

Contents

1.0 Introduction

In the presence of a pathological continuous cardiotocograph (CTG), FBS may be appropriate to determine if it is safe to continue with the labour. In all situations a woman and birthing person's preferences and the whole clinical picture should be considered before deciding to proceed.

Consideration to undertake an FBS must be discussed with the consultant on-call. The FBS procedure may take up to 15 to 20 minutes. If a woman or birthing person is in the second stage of labour, expediting birth by instrumental birth may reduce further delay and is usually considered first line.

2.0 Scope

This guideline applies to the following:

- Midwives
- Obstetricians

3.0 Responsibilities

Midwives & obstetricians:

- To access, read, understand and follow this guidance.
- To use their professional judgement in application of this guideline.

Management:

- To ensure the guideline is reviewed as required in line with Trust and National recommendations.
- To ensure the guideline is accessible to all relevant staff.

4.0 Abbreviations used within this guideline

CTG Cardiotocograph	**FBS** Fetal blood sampling
HIV Human immunodeficiency virus	

5.0 Considerations for fetal blood sampling

Due to a lack of robust evidence, NICE do not make any recommendation regarding the use of fetal blood sampling in labour.

UHSx does not recommend fetal blood sampling, unless in exceptional circumstances, which should be clearly documented.

- If a FBS is carried out, this **must** be discussed and agreed with the consultant on-call.

Resident doctors in obstetrics are currently not required to be trained in fetal blood sampling, so the consultant may need to take the sample themselves.

5.1 Criteria for considering FBS

- Pathological CTG.
- Conservative measures and fetal scalp stimulation have been unsuccessful.
- No contraindications to FBS

If an FBS is being considered, a thorough discussion of the risks and benefits should be had with the women or birthing person and their consent obtained.

5.2 Contraindications

- **FBS should not be performed in any situation where the overall clinical picture suggests that expediting birth is required.**
- **Caution: where meconium is present there is risk of contamination and false reassurance.**

Contraindications to FBS:

- Suspicion of acute maternal or fetal compromise, for instance:
  - Bradycardia (over 3 minutes).
  - Cord prolapse.
  - Uterine rupture.
  - Placental abruption or other evidence of acute haemorrhage.
  - Sinusoidal trace (or other suggestion of fetal haemorrhage).
  - Immediately after recovery from prolonged deceleration.
- Evidence of maternal or birthing parent sepsis
  - Persistent maternal or birthing parent tachycardia or fetal tachycardia without a reversible or known cause should promote a high suspicion of sepsis.
- Maternal and birthing parent infection with risk of materno-fetal transmission (E.g. HIV with high titres, hepatitis, herpes simplex).
- Risk of fetal bleeding disorders/ heritable bleeding disorders in mother and birthing parent (including low platelets).
- Prematurity less than 34/40
- Cervical dilation less than 3cm

The FBS procedure may take up to 15 to 20 minutes. If a woman or birthing person is in the second stage of labour, expediting birth by instrumental birth may reduce further delay and is usually considered first line.

6.0 Procedure

- FBS should only be performed by staff who are trained and competent to perform FBS.
- Obtain verbal consent. The woman or birthing person must understand the possible outcomes and subsequent actions that may be recommended (See table below).
- Check that the gas analyser is ready to receive samples.
- Ensure that all equipment is ready and staff are available to process the samples immediately (delay can lead the gas analyser rejecting the specimen).
- Position in left lateral where possible.
- Ensure privacy and avoid unnecessary exposure.

7.0 Fetal blood sampling results and recommended actions

FETAL BLOOD SAMPLE RESULT	ACTION
NORMAL	
FBS result: pH 7.25 or greater Lactate 4.1 or below **OR** NO RESULT OBTAINED but good fetal response to stimulation during procedure with improvement in CTG.	Continuing labour may be considered. If CTG abnormality persists then consider repeat FBS: • Within 60 minutes in the first stage • Within 30 minutes in the second stage
BORDERLINE	
FBS result: pH 7.21 – 7.24 Lactate 4.2 – 4.8	Consider expediting birth if delivery is not expected within 30 minutes. If labour is continued, a repeat sample should be performed within 30 minutes.
ABNORMAL	
FBS result: pH 7.20 or less Lactate 4.9 or above **OR** NO RESULT OBTAINED with minimal/no fetal response to scalp stimulation during procedure and no improvement in CTG. **OR** Woman or birthing person declines FBS.	Recommend expediting delivery. Inform neonatal team. Neonatal team should be present at birth.

A requirement and plan for repeating the FBS must be clearly documented on BadgerNet Maternity by the obstetrician who took the FBS.

7.1 Third FBS

Results of the FBS should be interpreted taking into account the previous pH, the rate of progress of labour and the clinical condition of the woman or birthing person and the baby.

If the CTG remains unchanged and the FBS result is stable (that is, lactate or pH is unchanged) after a second test, further samples may be deferred unless additional non-reassuring or abnormal features are seen.

7.2 Paired cord sampling

If it has been necessary to do a FBS sample during labour, paired umbilical cord samples should be taken.

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SOP Version Control Log

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Related protocols/procedures	**SRH&WH:** **PRH&RSCH:** **UHSx:** Intrapartum Fetal Monitoring
Standards	
Superseded documents	**SRH&WH:** CG1116 Fetal monitoring (section on FBS) **PRH&RSCH:** MP038 Fetal Blood Sampling
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1.0	September 2025	Fetal Wellbeing Midwives	New Trust wide SOP replacing: • CG1116 Fetal monitoring (section on FBS) (SRH&WH) • MP038 Fetal Blood Sampling (PRH&RSCH)