Plymouth Hospitals NHS
NHS Trust

Intrapartum Guidelines

No. 9 Fetal blood sampling

1. Introduction

Further information surrounding intrapartum fetal wellbeing can be elucidated by assessment of its blood acid-base balance. This is achieved by obtaining a fetal scalp blood sample (FBS) via an amnioscope, recommended to be whilst the woman is in the left lateral position (to reduce vena cava compression).

Do not waste time if the FBS is difficult to obtain or if there is clear evidence of fetal compromise

It is prudent when making decisions to take into account all clinical signs and symptoms, of which an FBS result is only one.

2. Indications for initial FBS analysis

A non-reassuring or abnormal fetal heart rate trace where conservative measures have failed or immediate reassurance about fetal wellbeing is required.

Fetal heart rate acceleration in response to vaginal examination and fetal scalp stimulation may be regarded as a reassuring feature and may be used to elicit information about fetal wellbeing (NICE 2014).

3. Contra-indications for FBS

Maternal infection (Hep B / C, HIV, primary herpes)
Fetal bleeding disorders (haemophilia)
Clinical signs of chorioamnionitis, maternal pyrexia > 38.5oC, offensive liquor
Non-recovering fetal bradycardia
Prematurity – less than 34/40
Cervical dilation <4cm

4. Interpretation of results

Both lactate or pH may be obtained. Take action based on the most abnormal result obtained (**either** pH **or** lactate). Ideally 2 samples should be obtained.

Lactate (mM)	pH	Interpretation	Action
≥4.9	≤7.20	Abnormal	Category 1 delivery
4.2-4.8	7.21-7.24	Intermediate	Repeat in <30minutes if still indicated, sooner if CTG deteriorates
≤4.1	≥7.25	Normal	Repeat in <1 hour if still indicated,

			sooner if CTG deteriorates

If the fetal blood sample result is normal, offer repeat sampling no more than 1 hour later if this is still indicated by the cardiotocograph trace, or sooner if additional non-reassuring or abnormal features are seen. **[NICE 2014]**

If the fetal blood samples result is borderline, offer repeat sampling no more than 30 minutes later if this is still indicated by the cardiotocograph trace, or sooner if additional non-reassuring or abnormal features are seen. **[NICE 2014]** Take into account the time needed to take a fetal blood sample when planning repeat sampling. **[NICE 2014]**

If after a second FBS the CTG remains stable (but still non-reassuring or abnormal), a third FBS is not required, unless deterioration occurs. A drop in pH or increase in lactate, even if still in the normal range, might be clinically relevant.

Discuss with the consultant obstetrician if: a fetal blood sample cannot be obtained **or** a third fetal blood sample is thought to be needed. **[NICE 2014].**

5. Cautions

Prematurity - between 34 and 36+6 weeks

6. Second stage FBS

Where a difficult assisted birth is contemplated in the presence of a pathological CTG, FBS should be undertaken. If result is abnormal Cat 1 LSCS might be the most appropriate course of action.

7. Documentation and record keeping

It is expected that every episode of care be recorded clearly, in chronological order and as contemporaneously as possible by all healthcare professionals as per Hospital Trust Policy.

Documentation and record keeping MUST include:

- Rationale for undertaking FBS together with documented management plan in notes dependent upon the outcome.
- All FBS results must be recorded in the patient records; additionally the machine print out must be secured within the labour record taking care not to obscure any written documentation.
- Blood samples must be labelled in the room prior to being taken to the blood gas analyser
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All entries must have the **date and time** together with **signature and printed name.**

Monitoring and Audit

Auditable standards:
Documentation and storage of FBS in records

Requirement and timing of repeat FBS with appropriate documentation
Documentation and storage of paired cord blood samples

Please refer to audit tool, location: 'Maternity on cl2-file11', Guidelines

Reports to:
Clinical Effectiveness Committee – responsible for action plan and implementation of recommendations audit

Frequency of audit:
Annual

Responsible person:
Senior labour ward midwife

Cross references

Antenatal Guideline 31 - Maternity Hand Held Notes, Hospital Records and Record Keeping

Intrapartum Guideline 10 The monitoring of fetal well-being during labour

Antenatal Guideline 44 – Guideline development within the maternity services

References

National Institute for Clinical Excellence (2014) Clinical Guideline 190. **Intrapartum Care: Care of healthy women and their babies during childbirth**. NICE, London.

Author	Greg Pearson ST6 on behalf of Guideline committee		
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Changes	Removal of table 1 Indictors for initial FBS analysis, based upon CTG interpretation and flow chart. Introduction of Interpretation of results, Second stage FBS advice.		
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