Cord pH ≤ 7.1

- Labour ward staff should perform cord blood gas analysis on all newborn infants.
- Medical neonatal/paediatric staff who attend deliveries, should document the cord pH of the babies with their resuscitation notes.
- All babies with pH <7.0 should have a Datix submitted.
- All unwell babies with cord pH ≤ 7.1 should be admitted to the neonatal unit.
- See this 10 minute video for how to undertake a screening neurological examination for HIE

Well babies with cord pH 7.00-7.10

- Baby is at risk of hypoglycaemia and should follow the standard hypoglycaemia protocol (this includes the need for two normal blood sugar measurements before discontinuation)
- Baby is at risk of deterioration and should have 12 hours of NEWS observations
- If in RIE, any baby can undergo e-screening for the COMET study if pH is ≤7.00 or base excess is -16mmol or worse. Please contact neonatal Tier 2 within 3 hours for consideration of e-screening for the COMET study (see COMET protocol)

Well babies with cord pH <7.00 *or* base excess minus 12 or worse

- If baby required any IPPV at delivery:
    - Baby should be admitted to the NNU/SCBU for observation. The neonatal/paediatric Tier 2 should review the baby and document their examination particularly CNS examination under 'HIE scoring'. Ongoing assessment for cooling criteria particularly neurological assessment should occur until 6 hours of age.
    - If in RIE, any baby can undergo e-screening for the COMET study if pH is ≤7.00 or base excess is -16mmol or worse. Please contact neonatal Tier 2 within 3 hours for consideration of e-screening for the COMET study (see COMET protocol)
    - Baby should follow the standard hypoglycaemia protocol (this includes the need for two normal blood sugar measurements before discontinuation).
    - If discharged to the ward before 12hours, NEWS should be started and continued until 12 hours of age.

- If baby required no IPPV at delivery:
    - Baby should be admitted to the postnatal ward
    - Baby is at risk of hypoglycaemia and should follow the standard hypoglycaemia protocol (this includes the need for two normal blood sugar measurements before discontinuation)
    - Baby should have a repeat blood gas timed with their blood sugar

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- Baby is at risk of deterioration and should have 12 hours of NEWS observations
- The neonatal/paediatric Tier 2 should review the baby at 1 hour of age and document their examination particularly CNS examination.
- If in RIE, any baby can undergo e-screening for the COMET study if pH is ≤7.00 or base excess is -16mmol or worse. Please contact neonatal Tier 2 within 3 hours for consideration of e-screening for the COMET study (see COMET protocol)

- Regardless of the cord pH or BE, any infant who is causing clinical concern for any reason should be reviewed by the neonatal/paediatric Tier 2 if requested and an appropriate plan made.

Recording diagnosis of HIE and birth asphyxia on Badger

- When admitting or reviewing a baby with concern about hypoxic-ischaemic encephalopathy please do not enter a diagnosis of 'birth asphyxia' or 'HIE' without discussing with the consultant. When admitting on Badger, use category 'poor condition at birth' if needed.
- Many babies who are depressed at birth, require resuscitation and are acidotic, show rapid normalisation of their behaviour soon after birth. They should not be diagnosed as having mild encephalopathy.
- After admission, if the infant's condition is not normalising rapidly, please fill in the HIE neurological assessment form on badger (smart search HIE and it will pop up) and discuss the diagnosis with the consultant if the baby is considered to be encephalopathic.
- The diagnosis of Grade 1 HIE takes skill in neurological examination. It is characterised by signs which persist over hours, not a single examination showing mild encephalopathy findings. Distinguishing Grade 1 from a normal baby who is simply recovering from the effects of a short period of hypoxia is important as Grade 1 HIE may be associated with an increased risk of neurodisability, meaning that an MRI scan and follow up may be required. On the other hand transient neurological signs that resolve quickly are not likely to have long term consequences.
- Do not discharge an infant with the diagnosis of any grade of HIE without first discussing with a consultant whether the diagnosis is appropriate. Inaccurate recording of 'HIE' or 'birth asphyxia' on a discharge letter leads to parental distress and confusion.

COMET criteria and screening

Any baby where pH is ≤7.00 or BE≥ -16mmol/l or Apgar is ≤5 at 10 minutes or baby requiring ongoing resuscitation is eligible for neurological screening within 3 hours

Please screen for mild HIE using the QR code here:

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