GUIDELINE

# Blood Tests: Ordering

| | |
|---|---|
| **Scope (Staff):** | Nursing and Medical Staff |
| **Scope (Area):** | NICU KEHM, NICU PCH, NETS WA |

**Child Safe Organisation Statement of Commitment**

CAHS commits to being a child safe organisation by applying the National Principles for Child Safe Organisations. This is a commitment to a strong culture supported by robust policies and procedures to reduce the likelihood of harm to children and young people.

**This document should be read in conjunction with this disclaimer**

## Aim

To provide a guide for clinicians ordering blood tests. To ensure a balance of clinical useful information for ongoing management and care.

## Risk

Over sampling can cause unnecessary pain and trauma and iatrogenic anaemia for the neonate.

## Background

There needs to be a balance between clinically useful information that can be obtained from blood testing against pain for the neonate and iatrogenic anaemia from multiple sampling and consequent risks of blood transfusion.

The decision to order a blood test on a baby should be made on an individual basis having regard to that particular baby's clinical condition.

In the past practice has generally erred on the side of oversampling to assure results are available for a round. Current recommendations are a reversal of this process so that if doubt exists a decision about ordering a test can be considered on the round. Remember the test can always be ordered later but the blood can never be put back.

## Key points

- Where possible decisions for the following day's blood tests should be decided on the ward round, forms completed including date for tests to be done and left at the baby's cot side.

- New admissions after the round to have the forms for the following day completed by the admitting team.
- Any baby whose clinical condition changes and warrants blood sampling before the morning round should have forms completed appropriately. Always ask a more senior member of staff if you are uncertain whether the baby needs a blood test.
- Always try and coordinate sampling as each bloodletting wastes blood.
- Electrolytes and bicarbonate obtained from the blood gas machine are accurate if the sample is of good quality. The accuracy of the result from the formal lab or the gas machine is heavily dependent on the quality of the sample.
- A haemolysed sample will give an inaccurate result from the formal lab or the gas machine. A good quality sample measured within a few minutes of sampling from the gas machine will generally give more accurate results for bicarbonate, potassium and glucose than those produced 30-60 minutes later in the laboratory.
    - If Urea and Creatinine (U&E) are required they can be ordered alone from the main lab (0.2 mL). Formal U&E's should only be sent to the main lab if the gas machine samples seem aberrant or you do not have a gas machine sample available.
    - Formal U&E's require 0.2 mL on top of the 0.2 mL that gave the gas machine sample.
- Blood glucose should be tested with the blood gas machine.
- For babies nil by mouth, blood glucose monitoring should be attended 8 hourly. Once stable, routine blood glucose is at the discretion of the treating Neonatologist.
- Plasma osmolality requires 0.1 mL of blood and may not give you more information than you can get from the sodium, glucose and urea.
- Antibiotic levels - monitor as per drug manual protocols.
- Use TCM monitoring wherever possible to minimise the number of blood gases taken.

| **Frequency of Commonly Ordered Tests**<br>**This is a guide only** | | | | | |
|---|---|---|---|---|---|
| Test | On Admission | | Physiologically unstable | Stable <32 weeks/1250g or ongoing resp support | Older neonate feeding and growing |
| | Level 3 | Level 2 | | | |
| **Haematology** | | | | | |
| FBC | Yes | If indicated | 7-10 days<br>*monitor on blood gas<br>**formal if transfusion considered | 10-14 days | 10-14 days |
| Group and hold | < 28 weeks / 1000g | | | | |
| **Biochemistry** | | | | | |
| Blood gas | Individualise | | Individualise | Every 2-3 days | Weekly |
| Glucose | Yes | Yes | Individualise | With gas | With gas |
| Na (monitor on blood gas) | 8-12 of age | | Daily | With gas | With gas |
| Urea / Creatinine | | | Alternate days if on TPN | | |
| Bilirubin | < 28 weeks / 1000 grams daily for first few days then as indicated. Other neonates if jaundiced. | | | | |
| Bone Bloods LFT,PO4,Ca, Vitamin D | | | | At 1 month if EBM/PDHM then monthly thereafter | |

**Monitoring when on TPN**

| | |
|---|---|
| Blood Gas | Daily in the first week, and clinically indicated thereafter |
| U&E, Creatinine, Phosphate, and Calcium | On days 3, 7 and 14 after commencing TPN. |
| Bone Bloods – Ca, PO4, LFT and Vitamin D | Day 28. Consideration should be given to performing bone bloods earlier, in cases of prolonged TPN use. |
| Prolonged TPN | Fortnightly liver function tests. |
| Central Venous Catheter | Consider twice weekly CRP for catheter-related sepsis. |

This document can be made available in alternative formats on request.

| | | | |
|---|---|---|---|
| Document Owner: | Neonatology | | |
| Reviewer / Team: | Neonatal Coordinating Group | | |
| Date First Issued: | February 2011 | Last Reviewed: | 22nd April 2021 |
| Amendment Dates: | | Next Review Date: | 22nd April 2024 |
| Approved by: | Neonatal Coordinating Group | Date: | 22nd June 2021 |
| Endorsed by: | Neonatal Coordinating Group | Date: | |
| Standards Applicable: | NSQHS Standards:<br>Child Safe Standards: 1,10 | | |

**Printed or personally saved electronic copies of this document are considered uncontrolled**

Healthy kids, healthy communities

Compassion | Excellence | Collaboration | Accountability | Equity | Respect

Neonatology | Community Health | Mental Health | Perth Children's Hospital