



NCCU CLINICAL GUIDELINES
SECTION: 1

RESUSCITATION AND ADMISSION

Section: 1 Resuscitation and Admission
Ordering blood tests
Date: February 2011

Neonatology Clinical Guidelines
King Edward Memorial/Princess Margaret Hospitals
Perth Western Australia

ORDERING BLOOD TESTS GUIDELINES

The following principles are to guide the frequency of blood sampling in neonates. There is 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 residents/ registrars have generally erred on the side of oversampling to assure results are available for a round. We recommend 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.

1. 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.
2. New admissions after the round to have the forms for the following day completed by the admitting team.
3. Any baby whose clinical condition changes and warrants blood sampling before the morning round should have forms completed appropriately.
4. 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 dependant 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 are required they can be ordered alone from the main lab (0.2ml). Formal UandEs 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.

Note that each formal UandEs requires 0.2ml on top of the 0.2ml that gave the gas machine sample.

5. Blood glucose should be tested with the blood gas machine.

6. Note that plasma osmolality requires 0.1ml of blood and may not give you more information than you can get from the sodium, glucose and urea.
7. Monitoring of antibiotic levels as drug manual suggests.
8. Make use of the transcutaneous pCO₂ monitoring wherever possible to minimise the number of blood gases taken.
9. Always ask a more senior member of staff if you are uncertain whether the baby needs a blood test.

The following table details suggested frequency of commonly ordered tests. The table is a general guide only. The clinical condition of a baby may warrant quite different sampling frequencies.

	Admission		Physiologically unstable	Stable < 32 1250gm Or ongoing resp support	Feeder & Grower
	L3	L2			
Haematology					
FBC for Hb.	✓	±	7 – 10 days *monitor Hb on blood gas formal if transfusion considered	10 – 14 days	10 – 14 days
FBC for platelet	✓	±	individualise		
*Gp DAT (Coombs)	✓				
X match	<28 1000gm				
Biochemistry					
Blood gas	individualise		individualise	Every 2 – 3 days	weekly
Glucose (monitor on blood gas)	✓	✓	Daily with gas	With gas	With gas
Na (monitor on blood gas)	At 8 – 12 hours		Daily	With gas	With gas
Urea / Creatinine			Alternate days if on TPN		
Bilirubin			Daily for first few days <28 1000gm, else only if jaundiced		
LFT, PO ₄ , CA				At 1 month if EBM/PDHM	

*GP DAT (Coombs) check at delivery on RH negative mothers and on all babies requiring phototherapy.