

Point of Care Testing

In the
National Isolation Unit MMUH



Benefits of Point of Care

POCT devices in the NIU provide the required accurate test results in a contained environment on a single patient in a timely fashion.

POCT devices were sourced to provide the parameters decided on by the NIU team.

What are the specific requirements for POCT devices in the NIU?

Normally when we are acquiring analysers in the laboratory setting our main requirements are the analyser performance and the cost.

Additional factors to consider for the NIU were

- Is the analyser user friendly?
- How is the biological waste disposed of?

What did we choose?

Device Name	Device Type	Available parameters	Sample type required
Radiometer ABL 90 Flex	Blood Gas analyser	pH, pCO ₂ , pO ₂ , O ₂ Sat, Base Excess, Bicarbonate, Lactate, Hb, OxyHb, CarboxyHb, MetHb, Hct, K ⁺ , Na ⁺ , Ca ⁺⁺ , Gluc	Blood Gas Syringe: Radiometer SafePICO Aspirator
Skyla HB1	Chemistry analyser	Alb, ALP, ALT, AST Urea, Crea, GGT, Glu, TBIL, Total Cholesterol, Total Protein, UA	Chemistry Tube: Orange Top Li-Heparin-Gel 4.9 ml
QBC Star	FBC analyser	Hct, Hb, MCHC, Total WBC, Granulocytes, % Granulocytes, Lymphs&Monos, %Lymphs&Monos, Platelets	FBC Tube: Pink Top Sarstedt Monovette EDTA KE/2.7 ml
Hemochron Signature Elite	Portable microcoagulation system	WB Citrated PT, WB Citrated APTT	Coag Tube: Green Top Sarstedt Monovette Sodium citrate 3 ml
Binax NOW Malaria kit	Malaria Screen	Plasmodium falciparum infection or a mixed infection (P. falciparum/ P. Vivax/P. ovale/P. malariae)	FBC Tube: Pink Top Sarstedt Monovette EDTA KE/2.7 ml

Why the skyla?



- It provides a wide range of assays
- Waste is contained in the reagent cassette
- Analysis takes 15 minutes
- Can be interfaced
- Whole Blood can be used
- Minimal maintenance

Why the QBC Star?



- Fast analysis time – 7mins
- Waste is contained in the sample capillary
- Internal tri-level quality control performed daily
- Minimal maintenance

Why the ABL90 FLeX

- There are currently 8 other ABL90 flex analysers in use in MMUH
- They use safe-pico syringes which means the sample can be analysed with the cap on.
- They can be monitored remotely through aqure (middleware interface)
- All internal reagents and tubing is disposable
- Internal Calibrations and QC is performed Daily
- An interface is already in place to electronic patient record (EPR)
- Very fast sample analysis - 2 mins



Why the Hemochron?



- Low sample volume — only one drop required (15 μ L)
- Easy to fill sample well; with overflow reservoir
- Self-contained waste channel reduces biohazards
- Barcoded label provides traceability for product type, lot, and expiration date
- Citrated Whole Blood will be used and results will automatically be converted to plasma equivalent values for ease of comparison to lab results.

Training and Competency

- Training provided by the POC team for Infectious diseases team and nurses in St. Bernard's ward.
- Initial training sessions were carried out without staff wearing PPE in order for them to familiarise themselves with the techniques involved (2 hours).
- Initially the process for each test was explained and demonstrated. Each member of staff then performed each test under observation.

Training and Competency

Training is being provided in the following areas:

- Blood specimen types and requirements
- The examination process for each test
- Data interpretation- sample flags and instrument errors and also in the event that re-analysis or repeat phlebotomy is required.
- Possible interferences
- Limitations of each test

Training and Competency

- Ongoing training sessions are being provided where clinical staff are processing samples on all devices while wearing full PPE.
- POC training is run in conjunction with Infection control training in order to minimise the time commitment for staff involved
- Training and competency records are being maintained by the POC team.
- Laminated Quick User guides are available in the NIU to assist staff if required.
- Detailed Standard Operating Procedures will be available on Maternet.

Overview

- 4 POCT devices were selected to provide the NIU with the diagnostic resources they requested
- Training has been completed by all staff on the ID team and in the NIU.
- Competency assessment is ongoing and it is necessary for staff to wear PPE during competency assessment.

QUESTIONS?



For Further information,
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