Nova Lactate Stat-Strip Meter

The Nova Lactate Meter is designed to provide a rapid lactate result on whole blood by Point of Care Testing. The test requires 0.7ul of blood and the result is available in 13 seconds. The Lactate test strip is an electrochemical sensor, using the enzyme lactate oxidase to convert lactate to a current. The amount of current that is produced depends on how much lactate is in the blood.

The lactate meter has the same testing technique as the glucose meter. You can distinguish the lactate meter due to its purple label and purple strips.

Health and Safety

Users must be aware that there is a risk of infection when coming into contact with human blood. To minimise risk, ensure gloves are worn. Dispose of all consumables as biohazardous waste.

Measuring Range

Lactate meter measurement range	0.3-20 mmol/L
Meter will display LO if result is	<0.3 mmol/L
Meter will display HI if result is	>20.0 mmol/L

Test Strips

The strip has a multi well system

- One well measures electrochemical interferences e.g. ascorbic acid, uric acid, paracetamol, oxygen saturation, and bilirubin
- One well measures Haematocrit (Hct)
- Lactate well subtracts electrochemical interferences and corrects for Hct providing a true interference free result
- No result will display if the strip is short sampled or if air bubbles are present

Store test strips between 15 – 30 °C, **do not** refrigerate.

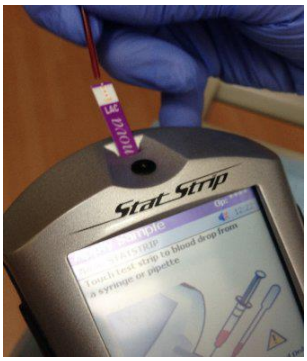
- The strips should always be stored in the original container
- Always close the container lid immediately after removing a test strip. Strips have a 3-month shelf life once opened or until expiry date, whichever is sooner
- Write the date opened and discard date on the test strip container

Patient Sample

Lithium heparin whole blood sample (green top tube) is preferable, but venous or arterial fresh whole blood may be used. Samples should be analysed as soon as possible post collection. Lactate concentrations increase in whole blood samples post collection due to continued metabolism of glucose and production of lactic acid.

Testing a Patient Sample

1. Remove the meter from the docking station
2. Select 'LOGIN' on the screen or press the OK button
3. Scan your operator barcode
4. Press Accept or OK
5. Scan strip lot number
6. Scan the patient episode of care number
7. Insert a test strip in the meter – keep the meter flat
8. Apply a drop of blood to the end of the test strip
9. The meter will begin to count down for 13 seconds and the result will appear



Result Interpretation

- Normal range for lactate is 0.5 – 1.0 mmol/L
- Patients with critical illness can be considered to have normal lactate levels of less than 2.0mmol/L
- Hyperlactatemia is defined as a mild to moderate persistent increase in blood lactate concentration of 2 – 4mmol/L without metabolic acidosis
- Lactic acidosis is characterised by persistently increased lactate levels usually >5mmol/L in association with metabolic acidosis*****

Error Alerts

- Battery Low – Place meter on docking station, or insert spare battery
- Temperature Error – The meter will only work within the temperature range of 15- 40 degrees
- Strip Removed – the test strip was removed before completing the test. The test is cancelled.
- Wrong Strip – Insert correct strip.
- Flow error – Not enough sample was put into the strip. Repeat with new strip.

Infection Control

Wipe the meter with a Medical Grade Wipe between patients, taking care to not allow liquids to enter the strip port. Dry with a clean tissue.

Internal Quality Control

LAC control 1 (low) and LAC control 2 (Normal) are run weekly. The QC vials have an open expiry of 3 months (90 days), please note the opening date and the expiry date on the vial. The vials must be discarded after this time.

External Quality Assurance

Sample comparison testing is performed using two samples on a monthly basis for all lactate meters. The Nova meters are compared against either the Hastings Laboratory ABL800 or Wairoa's i-Stat CG4+. Samples from across the measuring range are tested and recorded. Samples must meet RPCA allowable limits of performance.

The spreadsheet is located at:

J:\Departments\POCT\Comparisons\Lactate\Monthly Lactate Meter Comparisons EQA.xlsx