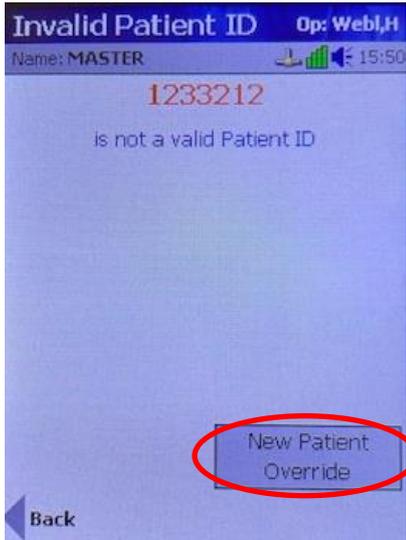


**Blood Sciences**  
**Section: Point of Care**

**Title: Nova StatStrip Glucose and Ketone Meter User Guide**

<b>Site/Area of application</b>	Point of Care - Produced specifically for Ward Users
<b>QPulse Number</b>	POCT-SOP-13 V 1.2
<b>Superseded documents</b>	BSF2POC143 V 1.2
<b>Implementation date of this version</b>	09/09/2019
<b>Author(s)</b>	Hannah Webley
<b>Reason for change</b> Created to supply ward users with a user guide for the Nova StatStrip Glucose and Ketone Meter.	
<b>Impact on training needs and requirements for competency assessment</b>	
This is a new procedure Acknowledgment of notification is taken to be your confirmation that you will ensure you are familiar with and implement the processes described. A process of training and assessment of competency is required.	
<b>Keywords for search</b> Point of Care, Glucose, Ketone	
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<b>Medico-Legal</b>	<p><b>It is important to not share passwords and always use the correct patient ID</b></p> <ul style="list-style-type: none"> <li>• It is a legal requirement and trust policy for individual access not to be shared.</li> <li>• Creates an Information Governance audit trail</li> <li>• Enables test results to be recalled for specific users and patients</li> <li>• Protects staff and patients from device misuse</li> </ul> <p><b>Training</b>  Training updates are required every <b>TWO years</b> and untrained staff must <b>NOT</b> use the meter.</p> <p>Each location should have a Key Trainer to cascade training to other staff members. Key trainers must receive a training update from POCT every 2 years.</p> <p>Training for Glucose testing should be completed at the same time or prior to Ketone testing training</p> <p>Ketone testing training should only be undertaken if you have access to a Glucose/Ketone meter.</p> <p><b>Patient ID</b>  Patient ID must be entered each time a sample is analysed. Acceptable forms of ID are:</p> <p style="text-align: center;"> - NHS Number                      - PAS number                      - A&amp;E number </p> <div style="text-align: center;">  </div> <p>After scanning patient ID, the meter may display the error message '<b>is not a valid patient ID</b>'. If this message appears, check you have entered the correct ID number and <b>press 'new patient override'</b>. This will save the ID entered to the result.</p> <p>For unknown patients, please enter something as specific as possible to the patient (e.g. unknownmalecrash) and contact POCT with the patient ID as soon as you are aware of it. POCT will amend this on the system.</p> <p><b>Do not use</b> surname, initials, bed numbers, case note numbers or random numbers and letters.</p>

<p><b>Analyser overview (Hardware)</b></p>	 <p>Some wards have meters with both glucose and ketone testing functionality. If you would like to know where your nearest glucose and ketone meter is located, please contact POCT.</p> <p><b>Glucose Strips</b> – 6 months expiry once opened  <b>Ketone Strips</b> – 3 months expiry once opened  <b>QC solution</b>- 3 months expiry once opened</p> <p>The date of opening should be noted on the side of the bottles.</p> <p>Strips and QC should be stored at room temperature.</p> <p>Strips and QC solution should be ordered from LTHT Pharmacy.</p>
<p><b>Analyser overview (Screen)</b></p>	<ul style="list-style-type: none"> <li>• Prompt bar (top of screen) offers guidance throughout process</li> <li>• Padlock symbol shows that testing is currently unavailable</li> <li>• Messages in <b>red</b> are compulsory and require action. Messages in <b>blue</b> are advisory but not essential prior to testing.</li> </ul>
<p><b>Calibration</b></p>	<ul style="list-style-type: none"> <li>• Not required</li> </ul>
<p><b>Quality Control (QC)</b></p>	<p><b><u>QC (Quality Control)</u></b></p> <ul style="list-style-type: none"> <li>• QC consists of 2 solutions, level 1 and 3.</li> <li>• Every 24 hours the meter will lockout and patient testing cannot be performed until QC is analysed</li> </ul>

- Importance of QC- to check meter performance and user technique
- For glucose and ketone meters, QC must be run on both glucose and ketone strips to unlock both tests

**Technique**

- Login by scanning the barcode on your Trust ID badge
1. Press the QC button.
  2. Scan the barcode on the vial of strips for the test you need to carry out (glucose or ketone). The barcode indicates to the meter which test is to be carried out.
  3. Scan the barcode on bottle of QC that you are going to test. Levels can be analysed in any order.
  4. Insert the strip into the meter with the gold end into the meter.
  5. Shake the bottle of QC solution and place a drop of QC onto a clean dry glove.
  6. Touch the end of the test strip into the droplet of QC until the meter beeps; capillary action will draw the solution into the strip.
- Keep the meter flat until analysis is complete
7. The result (**PASS** or **FAIL**) will be displayed on screen after 6 seconds (10 seconds for ketones). Press Accept.
- Remove the strip manually or use the ejector button on the back of the meter to eject the strip directly into a sharps bin.

**Should a QC test fail**

- Repeat the QC test
- Check dates on side of QC bottle- discard if >3months old.
- Check date on strips- discard if >6months old (>3months old for ketones)
- Repeat the test using new QC solution and a new pot of strips
- Contact POCT if you have tried all of the above.

**EQA (External Quality Control)**

EQA is organised by an external organiser but the aim is to compare your department's performance with your peers nationally. Samples are sent out every 3 months.

Run the EQA sample as a patient sample. Use the barcode at the bottom of the sheet as the patient ID. Samples must be analysed in the time stated on the sheet. The meter must be docked after analysis so POCT can retrieve the results.



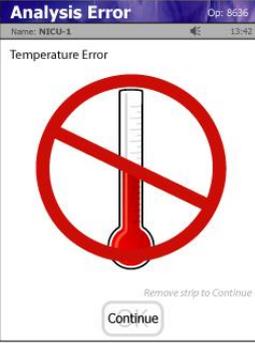
<b>Health and Safety</b>	<ul style="list-style-type: none"> <li>• PPE (Gloves) must be worn when handling /testing the patient sample.</li> <li>• Discard used lancet and strips in sharps bin.</li> </ul>
<b>Maintenance</b>	<ul style="list-style-type: none"> <li>• Keep meter and box clean from blood/spillages. Meter should be cleaned between patient testing by using: <ul style="list-style-type: none"> <li>○ Haz-Tab solution</li> <li>○ Green clinell wipes</li> <li>○ Biohazard wipes</li> </ul> </li> <li>• Do not get liquid inside the meter</li> <li>• Swap the battery when required and ensure that the gold contacts on the battery face the inside of the meter.</li> <li>• Ensure all the lights on the docking station are illuminating whilst the meter is in the dock</li> </ul>
<b>Pre-Analytical</b>	<p><b>Contraindications:</b></p> <p>Finger prick samples should not be taken from patients with suspected peripheral shutdown (e.g. severe DKA, shock, severe hypotension, hypothermia, etc.) as erroneous results may be obtained.</p> <p>In patients where peripheral shutdown is suspected a venous sample can be collected into a lithium heparin syringe to measure glucose and/or ketones on the handheld meter (a small amount of blood should be dispensed from the syringe onto a clean glove to enable sampling). For glucose, sending a venous fluoride oxalate sample to the biochemistry laboratory can also be used as an alternative.</p> <p><b>Patient Preparation and Sample collection:</b></p> <ul style="list-style-type: none"> <li>• Wash test site in warm water and ensure site is dry prior to lancing. Alcohol wipes may also be used to clean the site but must be allowed to dry before lancing.</li> <li>• Test site should be the side of the finger pad, avoiding use of the thumb and index finger to maintain patient independence and prevent dulling of the patients nerves (e.g. reading brail in diabetic retinopathy)</li> <li>• Finger can be 'milked' prior to finger prick, but not afterwards as this cause cellular fluid to dilute the sample.</li> <li>• Wipe away the first drop</li> </ul>

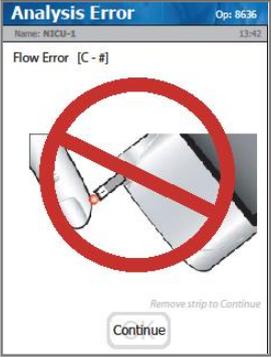
<p><b>Sample Analysis</b></p>	<ol style="list-style-type: none"> <li>1. Login by scanning the barcode on your Trust ID badge.</li> <li>2. The prompt bar will say 'Patient Test', press accept.</li> <li>3. Scan the barcode on the pot of strips for the test you need to carry out (glucose or ketone). The barcode indicates to the meter which test you will be carrying out.</li> <li>4. Positively identify patient by confirming full name and DOB prior to testing. Scan Patient ID barcode.</li> <li>5. Insert the strip into the meter with the gold end into the meter. <ul style="list-style-type: none"> <li>• Pierce test site using a safety lancet and wipe away first drop of blood.</li> </ul> </li> <li>6. Touch the end of the test strip to the blood drop until the meter beeps; capillary action will draw the blood into the strip. Minimum volume required is 1.2µl. Do not touch the test strip to the blood droplet a second time. <ul style="list-style-type: none"> <li>• Lay the meter flat until analysis is complete.</li> <li>• The result will be displayed on screen after 6 seconds (10 seconds for Ketones).</li> <li>• Remove and discard test strip in a sharps bin.</li> <li>• Comments are available (Pre Feed, Wrong QC level, Post Feed, Checked on Blood Gas, Checked in Lab, Fasting, Non Fasting, On insulin &amp; Dr Informed, or free text in comment). Comments cannot be entered once a result has been accepted/rejected.</li> <li>• Press <b>Accept</b> if test has been completed on the correct patient and fits with the clinical picture.</li> <li>• Press reject if sample is known to be contaminated, incorrect ID has been used or wrong patient was bled. <b>Always</b> leave a comment if result is rejected.</li> <li>• Document result in patient's record and take action</li> </ul> </li> </ol>	
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	in accordance with Trust guidelines, if required.
<b>Glucose Results</b>	<ul style="list-style-type: none"> <li>• <b>Very important:</b> At this point please confirm your result is from a Glucose strip <b>NOT</b> a Ketone strip (incidents have occurred because staff members have treated a ketone result as a glucose result)</li> <li>• Meter analytical range <b>Glucose 0.6 – 33.3 mmol/L</b></li> <li>• Results outside of analytical range will display as <b>HI↑↑</b> or <b>LO↓↓</b></li> <li>• If the glucose result is <b>&lt;2.0 mmol/L</b>, the patient is <b>not on insulin</b> and this is the <b>first instance of hypoglycaemia</b> follow guidance below <ul style="list-style-type: none"> <li>• Repeat the test to confirm</li> <li>• If the repeat capillary glucose is &lt;2.0 mmol/L, send a venous fluoride oxalate sample to the lab for confirmation. Do not wait for the lab result before treating the patient</li> </ul> </li> <li>• A sample should also be sent to the lab for any patient if the result does not fit with the clinical picture or is outside the analytical range</li> </ul>
<b>Ketone Results</b>	<ul style="list-style-type: none"> <li>• <b>Very important:</b> At this point please confirm your result is from a Ketone strip <b>NOT</b> a Glucose strip (incidents have occurred because staff members have treated a ketone result as a glucose result)</li> <li>• Meter analytical range <b>Ketone 0 – 7 mmol/L</b></li> <li>• Results outside of analytical range will display as <b>HI↑↑</b> or <b>LO↓↓</b></li> </ul> <p>Clinical guidance for ketone measurement is available on the Trust intranet.</p>
<b>Recall results</b>	<ul style="list-style-type: none"> <li>• Login and press <b>Review</b></li> <li>• Select test result to be viewed and press <b>View</b></li> <li>• Meter will display test result and any comments entered at time of analysis</li> <li>• Logout by re-docking the meter or pressing the user name in the top right hand corner of the screen and select 'logout' on the screen</li> <li>• Meter can store max. 1000 patient records</li> <li>• POCT can produce reports for specific patients if required.</li> </ul>

**Troubleshooting and Incident Reporting**

- See common errors table below for troubleshooting
- Any issues that cannot be resolved should be reported to Point of Care Testing as soon as possible.
- When reporting clinical incidents on DATIX, select the box for incidents involving Trust equipment and select 'in-vitro Medical Devices' from the drop down list.

COMMON ERRORS	SOLUTION
	<ul style="list-style-type: none"> <li>• Replace battery or return the meter to the dock to charge</li> </ul>
	<ul style="list-style-type: none"> <li>• Move the meter to a location with the correct temperature range (15°C to 40°C) and run both levels of QC</li> </ul>

	 <p>Analysis Error Op: 8636 Name: NUCU-1 13:42 Flow Error [C - #] Remove strip to Continue Continue</p>	<ul style="list-style-type: none"> <li>Insufficient sample or sample applied incorrectly. Rerun test with a new strip</li> </ul>
	 <p>Analysis Error Op: 8636 Name: NUCU-1 13:42 Bad Sample [B - #] Remove strip to Continue Continue</p>	<ul style="list-style-type: none"> <li>Insert new strip and rerun the test. If the error code persists, perform the test using an alternate test strip vial</li> </ul>